

<110> Human Genome Sciences, Inc.

<120> Lyme Disease Vaccines

<130> PB481US

<140> 09/830,230

<141> 2001-04-24

<150> PCT/US98/12718

<151> 1998-06-18

<150> 60/057,483

<151> 1997-09-03

<150> 60/053,344

<151> 1997-07-22

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<150> 60/050,359

<151> 1997-06-20

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<170> PatentIn Ver. 2.0

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Asp Pro Val Phe Ser Asp Leu Lys Ile Lys Val Leu Lys Tyr Asn Lys  
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Lys Gln His Ile Pro Leu Phe Phe Tyr Ser Tyr Lys Val Lys Lys Gly  
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Asp Thr Phe Phe Lys Ile Ala Asn Lys Ile Asn Gly Trp Gln Ser Gly  
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Ile Ala Thr Ile Asn Leu Leu Asp Ser Pro Ala Val Ser Val Gly Gln  
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Glu Ile Leu Ile Pro Ser Lys Lys Gly Val Phe Val Phe Asp Ser Lys  
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 Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu Val Ile  
 65 70 75 80  
 Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln Lys Thr  
 85 90 95  
 Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala Thr Gly  
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 115 120 125  
 His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys Leu Met  
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 Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly Tyr Ile  
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 Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn Val Arg  
 165 170 175  
 Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp Glu Glu  
 180 185 190  
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 195 200 205  
 His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys Ala Glu  
 210 215 220  
 Gly Val Val Thr Asn Lys Asn Thr Tyr Gln Ala Asp Ala Val Ile Leu  
 225 230 235 240  
 Ala Thr Gly Ile Lys Pro Asp Thr Glu Phe Leu Glu Asn Gln Leu Lys  
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 Val Ser Lys Lys Asn Glu Tyr Ile Pro Leu Ala Thr Thr Ala Asn Lys  
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 Lys Gly Thr Leu Gly Ser Ala Ser Ile Lys Ile Leu Ser Leu Glu Ala  
 325 330 335

Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln Ile Lys  
340 345 350

Tyr Lys Thr Ile Phe Val Lys Asp Lys Asn His Thr Asn Tyr Tyr Pro  
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Gly Gln Glu Asp Leu Tyr Ile Lys Leu Ile Tyr Glu Glu Asn Thr Lys  
370 375 380

Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val Ile Arg  
385 390 395 400

Ile His Ala Leu Ser Ile Ala Ile Tyr Ser Lys Leu Thr Thr Lys Glu  
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Asp Ile Leu Asn Ile Ala Gly Asn Ala Ala Lys  
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Gln Glu Glu Phe Glu Lys Thr Gly Ile Ser Val Lys Thr Asn His Glu  
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Val Ile Lys Val Asp Ala Lys Asn Asn Thr Ile Val Ile Lys Asn Gln  
65 70 75 80

Lys Thr Gly Thr Ile Phe Asn Asn Thr Tyr Asp Gln Leu Met Ile Ala  
85 90 95

Thr Gly Ala Lys Pro Ile Ile Pro Pro Ile Asn Asn Ile Asn Leu Glu  
100 105 110

Asn Phe His Thr Leu Lys Asn Leu Glu Asp Gly Gln Lys Ile Lys Lys  
115 120 125

Leu Met Asp Arg Glu Glu Ile Lys Asn Ile Val Ile Ile Gly Gly Gly  
130 135 140

Tyr Ile Gly Ile Glu Met Val Glu Ala Ala Lys Asn Lys Arg Lys Asn  
145 150 155 160

Val Arg Leu Ile Gln Leu Asp Lys His Ile Leu Ile Asp Ser Phe Asp  
165 170 175

Glu Glu Ile Val Thr Ile Met Glu Glu Glu Leu Thr Lys Lys Gly Val  
 180 185 190  
 Asn Leu His Thr Asn Glu Phe Val Lys Ser Leu Ile Gly Glu Lys Lys  
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 305 310 315 320  
 Glu Ala Ala Arg Thr Gly Leu Thr Glu Lys Asp Ala Lys Lys Leu Gln  
 325 330 335  
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 340 345 350  
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 Thr Lys Ile Ile Leu Gly Ala Gln Ala Ile Gly Lys Asn Gly Ala Val  
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 agaacacaag aagaattcga aaaaactgga atctctgtta aaactaacca cgaagttatc 240  
 aaagtagatg caaaaaacaa tacaattgta ataaaaaatc aaaaaacagg aaccattttt 300  
 aacaatactt acgatcaact tatgatagca actggtgcaa aacctattat tccaccaatc 360

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gataagcaca tactcataga ttcttttgac gaagaaatag tcacaataat ggaagaagaa 600
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attcatgctt tatcaattgc aatctattca aaacttacaa caaaagagct agggatgatg 1260
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 <212> DNA  
 <213> Homo sapiens

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cccaatacaa tgatctcaag aacacaagaa gaattcgaaa aaactggaat ctctgttaaa 180
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cctattattc caccaatcaa taatatcaat ctagaaaatt ttcatactct gaaaaattta 360
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attggtggtg gatacattgg aattgaaatg gtagaagcag caaaaaataa aagaaaaaat 480
gtaagattaa ttcaactaga taagcacata ctcatagatt cttttgacga agaaatagtc 540
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 <212> PRT  
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Trp Glu Gly Asp Gly Lys Leu Ala Tyr Ile Asp Ala Leu Phe Thr Ala

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Gly	Leu	Gly	Phe	Ile	Ser	Ile	Thr	Thr	Phe	Tyr	Leu	Leu	Ile	Pro	Lys
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Lys	Lys	Met	Asn	Leu	Thr	Asp	Ala	Arg	Ile	Ile	Lys	Gln	Tyr	Ser	Leu
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Ser	Asn	Ile	Glu	Tyr	Asn	Pro	Ile	Arg	Ile	Leu	Lys	Ser	Ile	Leu	Phe
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Thr	Ile	Ser	Ala	Phe	Cys	Asn	Ala	Gly	Phe	Ser	Met	His	Ser	Glu	Ser
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Ile	Tyr	Ala	Trp	Arg	Asp	Val	Pro	Glu	Ala	Ile	Val	Val	Val	Ser	Ile
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Leu	Ile	Ile	Cys	Gly	Gly	Leu	Gly	Phe	Met	Val	Tyr	Arg	Asp	Val	Asn
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Phe	Thr	Glu	Met	His	Lys	Leu	Lys	Ala	Gly	Tyr	Ser	Met	Ser	Thr	Leu
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Gln	Asn	Gly	Asn	Gly	Tyr	Ile	Ile	Gly	Ser	Tyr	Lys	Val	Ser	Ile	Asp
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Ser	Ile	Arg	Phe	Ala	Leu	Leu	Phe	Phe	Ala	Arg	Ala	Ile	Phe	Ile	Leu
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Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys		
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Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser		
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Lys Lys Met Asn Leu Thr Asp Ala Arg Ile Ile Lys Gln Tyr Ser Leu		
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Ser Asn Ile Glu Tyr Asn Pro Ile Arg Ile Leu Lys Ser Ile Leu Phe		
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Ile Thr Phe Ser Ile Glu Met Ile Gly Leu Ile Leu Ile Leu Ile Cys		
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Phe Lys Leu Arg Gly Val Asn Ile Ser Phe Leu Glu Ala Leu Phe Thr		
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Thr Ile Ser Ala Phe Cys Asn Ala Gly Phe Ser Met His Ser Glu Ser		
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Ile Tyr Ala Trp Arg Asp Val Pro Glu Ala Ile Val Val Val Ser Ile		
145	150	155
Leu Ile Ile Cys Gly Gly Leu Gly Phe Met Val Tyr Arg Asp Val Asn		
165	170	175
Asn Thr Ile Lys Asn Lys Lys Lys Leu Ser Leu His Ala Lys Ile Val		
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Phe Ser Leu Ser Phe Phe Leu Ile Ile Ile Gly Ala Ile Leu Phe Phe		



195	200	205
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Asn Tyr Leu Asp Asn Ser Leu Ile Ser Gly Arg Thr Gln Ile Ile Ser 245 250 255		
Leu Pro Phe Met Phe Ile Gly Gly Ala Pro Gly Ser Thr Ala Gly Gly 260 265 270		
Ile Lys Ile Thr Thr Phe Phe Leu Ile Val Leu Ala Val Val Lys Asn 275 280 285		
Gln Asn Gly Asn Gly Tyr Ile Ile Gly Ser Tyr Lys Val Ser Ile Asp 290 295 300		
Ser Ile Arg Phe Ala Leu Leu Phe Phe Ala Arg Ala Ile Phe Ile Leu 305 310 315 320		
Ser Phe Ser Phe Phe Met Leu Leu Phe Phe Glu Gly Gly Ser Gly Asn 325 330 335		
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Val Gly Leu Ser Val Gly Val Thr Gln Asp Leu Ser Phe Trp Gly Lys 355 360 365		
Val Ile Ile Ile Phe Thr Met Phe Ala Gly Arg Ile Gly Leu Phe Ser 370 375 380		
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 <212> DNA  
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<211> 1227

<212> DNA

<213> Homo sapiens

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<211> 481

<212> PRT

<213> Homo sapiens

<400> 29

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 20 25 30

Leu Ser Ile Leu Ser Lys Asn Gly Lys Gly Ser Val Tyr Leu Lys Val  
 35 40 45

Ser Lys Ser Ser Asp Tyr Ile Leu Thr Leu Asp Lys Ser Ser Asn Ser  
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Asp Phe Val Phe Lys Ile Tyr Asp Ile Ser Asn Lys Lys Tyr Ile Thr  
 65 70 75 80

Asp Lys Val Lys Arg Arg Asp Phe Lys Ile Arg Leu Asp Lys Asn Ser  
 85 90 95  
 Leu Tyr Ala Ile Ile Tyr Val Gly Thr Lys Asn Glu Asn Ile Lys Phe  
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 Ser Leu Thr Asp Leu Asp Phe Ser Ile Leu Ser Ser Asp Ser Leu Lys  
 115 120 125  
 Ala Lys Thr Ser Lys Ile Glu Lys Glu Asp Leu Phe Phe Thr Leu Lys  
 130 135 140  
 Asp Leu Pro Val Leu Asn Leu Thr Ala Lys Leu Lys Lys Tyr Val Leu  
 145 150 155 160  
 Arg Ile Tyr Lys Ser Asn Ile Tyr Ile Ala Tyr Gln Leu Glu Asn Ser  
 165 170 175  
 Asp Asp Ile Lys Val Ala Glu Phe Ile Glu Asp Val Gly Trp Phe Asn  
 180 185 190  
 Leu Asp Ser Ser Val Asn Arg Asn Ile Thr Asn Ile Val Asn Phe Asp  
 195 200 205  
 Phe Ser Ile Asn Ser Lys Gly Asn Leu Tyr Ile Ala Phe Val Thr Lys  
 210 215 220  
 Ser Gly Ala Asp Phe Ala Ser Glu Leu Ile Val Lys Lys Phe Asn Ser  
 225 230 235 240  
 Arg Lys Trp Ile Asp Ile Ser Pro Gly His Ile Glu Asn Phe Gly Ser  
 245 250 255  
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 Leu Arg Glu Ile Arg Gly Glu Tyr Lys Ile Asn Leu Ile Ser Asn Met  
 275 280 285  
 Gly Tyr Gly Ser Ile Trp Thr Asp Val Ile His Ala Tyr Leu Ser Lys  
 290 295 300  
 Gly Asp Ser Asn Val Asn Ser Ser Asn Ile Gly Leu Ile Ser Glu Pro  
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 Phe Leu Gly Ile Phe Tyr Asn Tyr Lys Ser Asn Asn Glu Ile Lys Ser  
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 Ser Val Tyr Met Ala Asn Phe Ile Lys Gly Phe Phe Asp Ser Asn Phe  
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 Asn Gln Ile Ile Met Ser Phe Val Ser Glu Asn Arg Pro Ile Val Asn  
 370 375 380  
 Ile Cys Pro Leu Lys Ser Ser Arg Trp Ile Asn Ile Ser Pro Asn Val  
 385 390 395 400

Glu Met Glu Gly Leu Ser Ala Asp Ile Gly Leu Tyr Lys Asn Asn Leu  
 405 410 415

Phe Leu Ala Phe Glu Asp Asn Asn Asn Val Arg Leu Ile Tyr Phe Lys  
 420 425 430

Asn Lys Asn Trp Tyr Phe Leu Asn Lys Leu Glu Asn Phe Lys Ser Asn  
 435 440 445

Val Lys Ser Pro Gln Ile Gly Ile Tyr Gly Asn Gln Gly Leu Val Ile  
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Gln

<210> 30

<211> 458

<212> PRT

<213> Homo sapiens

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Leu Thr Leu Asp Lys Ser Ser Asn Ser Asp Phe Val Phe Lys Ile Tyr  
 35 40 45

Asp Ile Ser Asn Lys Lys Tyr Ile Thr Asp Lys Val Lys Arg Arg Asp  
 50 55 60

Phe Lys Ile Arg Leu Asp Lys Asn Ser Leu Tyr Ala Ile Ile Tyr Val  
 65 70 75 80

Gly Thr Lys Asn Glu Asn Ile Lys Phe Ser Leu Thr Asp Leu Asp Phe  
 85 90 95

Ser Ile Leu Ser Ser Asp Ser Leu Lys Ala Lys Thr Ser Lys Ile Glu  
 100 105 110

Lys Glu Asp Leu Phe Phe Thr Leu Lys Asp Leu Pro Val Leu Asn Leu  
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Thr Ala Lys Leu Lys Lys Tyr Val Leu Arg Ile Tyr Lys Ser Asn Ile  
 130 135 140

Tyr Ile Ala Tyr Gln Leu Glu Asn Ser Asp Asp Ile Lys Val Ala Glu  
 145 150 155 160

Phe Ile Glu Asp Val Gly Trp Phe Asn Leu Asp Ser Ser Val Asn Arg  
 165 170 175

Asn Ile Thr Asn Ile Val Asn Phe Asp Phe Ser Ile Asn Ser Lys Gly  
 180 185 190

Asn Leu Tyr Ile Ala Phe Val Thr Lys Ser Gly Ala Asp Phe Ala Ser  
195 200 205

Glu Leu Ile Val Lys Lys Phe Asn Ser Arg Lys Trp Ile Asp Ile Ser  
210 215 220

Pro Gly His Ile Glu Asn Phe Gly Ser Leu Leu Asn Ile Ser Ile Asp  
225 230 235 240

Leu Lys Asp Arg Leu Tyr Leu Ala Tyr Leu Arg Glu Ile Arg Gly Glu  
245 250 255

Tyr Lys Ile Asn Leu Ile Ser Asn Met Gly Tyr Gly Ser Ile Trp Thr  
260 265 270

Asp Val Ile His Ala Tyr Leu Ser Lys Gly Asp Ser Asn Val Asn Ser  
275 280 285

Ser Asn Ile Gly Leu Ile Ser Glu Pro Phe Leu Gly Ile Phe Tyr Asn  
290 295 300

Tyr Lys Ser Asn Asn Glu Ile Lys Ser Glu Phe Ile Val Asn Asn Glu  
305 310 315 320

Asn Ala Trp Val Asn Ala Asn Ile Pro Ser Val Tyr Met Ala Asn Phe  
325 330 335

Ile Lys Gly Phe Phe Asp Ser Asn Phe Asn Gln Ile Ile Met Ser Phe  
340 345 350

Val Ser Glu Asn Arg Pro Ile Val Asn Ile Cys Pro Leu Lys Ser Ser  
355 360 365

Arg Trp Ile Asn Ile Ser Pro Asn Val Glu Met Glu Gly Leu Ser Ala  
370 375 380

Asp Ile Gly Leu Tyr Lys Asn Asn Leu Phe Leu Ala Phe Glu Asp Asn  
385 390 395 400

Asn Asn Val Arg Leu Ile Tyr Phe Lys Asn Lys Asn Trp Tyr Phe Leu  
405 410 415

Asn Lys Leu Glu Asn Phe Lys Ser Asn Val Lys Ser Pro Gln Ile Gly  
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Ile Tyr Gly Asn Gln Gly Leu Val Ile Ser Thr Leu Ser Ser Asn Ser  
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<211> 1446

<212> DNA

<213> Homo sapiens

<400> 31

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aaaggaagtg tttacttaaa agttagcaaa tcttccgatt atattttaac cctagataag 180

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gaaatggaag gtttaagtgc tgacattggg ctttataaaa ataatttgtt ttttagctttt 1260
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 <212> DNA  
 <213> Homo sapiens

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aaaagaagag attttaaaat aagattagat aaaaattctc tttatgcaat aatatatgtt 240
ggtactaaaa atgaaaacat aaagttttcg cttacagatt tagatttttc aattttaagt 300
agcgattccc tgaaagctaa aacatctaag attgaaaaag aagattttatt ttttacttta 360
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aaatcagggg ctgattttgc cagcgagctt atagttaaaa aatttaatat tagaaaatgg 660
attgatatta gtcctgggtc catagaaaat tttggatctt tattaaatat tagcattgat 720
ttaaaagata ggttgatatt agcatattta agggaaatta ggggtgaata taaaattaat 780
ttaatctcga atatgggtta cggaagtatt tggaccgatg taatacatgc ttatttaagt 840
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 <213> Homo sapiens

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 Ile Val Ser Phe Val Gly Ile Leu Leu Ile Tyr Ser Ser Asp Tyr Asn  
                             35                      40                      45  
 Ile Ser Gly Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp  
                             50                      55                      60  
 Val Ile Ile Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu  
                             65                      70                      75                      80  
 Lys Phe Val Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu  
                             85                      90                      95  
 Ala Leu Ile Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg  
                             100                      105                      110  
 Ser Trp Ile Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly  
                             115                      120                      125  
 Lys Val Val Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys  
                             130                      135                      140  
 Gly Tyr Asn Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe  
                             145                      150                      155                      160  
 Pro Ser Val Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile  
                             165                      170                      175  
 Val Tyr Leu Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp  
                             180                      185                      190  
 Leu His Tyr Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val  
                             195                      200                      205  
 Phe Ala Ile Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn  
                             210                      215                      220  
 Val Phe Tyr Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met  
                             225                      230                      235                      240  
 Gly Val Leu Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile  
                             245                      250                      255  
 Ser Lys Tyr Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe  
                             260                      265                      270  
 Ala Ser Ser Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser  
                             275                      280                      285  
 Lys Leu Met Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp  
                             290                      295                      300  
 Pro Ala Ile Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys  
                             305                      310                      315                      320  
 Ile Ala Ile Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly

325 330 335

Pro Tyr Thr His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile  
340 345 350

Phe Ser Ile Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile  
355 360 365

Leu Ile Leu Phe Phe Phe Leu Phe Phe Lys Phe Leu Ile Ile Met Asn  
370 375 380

Lys Ser Gln Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly  
385 390 395 400

Leu Leu Phe Phe His Thr Ser Phe Asn Val Gly Met Ser Leu Gly Val  
405 410 415

Leu Pro Ile Thr Gly Ile Pro Phe Pro Phe Leu Ser Tyr Gly Gly Ser  
420 425 430

Ser Thr Ile Thr Phe Phe Leu Ala Met Ser Phe Tyr Phe Asn Ile Glu  
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Ser Ile Val Ala Met Asp  
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<210> 34  
<211> 435  
<212> PRT  
<213> Homo sapiens

<400> 34  
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Ser Leu Thr Lys Asn Glu Tyr Ile Lys Gln Thr Phe Trp Val Ile Ile  
35 40 45  
Gly Phe Phe Leu Ile Phe Ile Val Gly Lys Tyr Asp Leu Lys Phe Val  
50 55 60  
Tyr Ser Met Val Tyr Pro Leu Tyr Phe Leu Leu Ile Leu Ala Leu Ile  
65 70 75 80  
Phe Thr Ala Phe Phe Gly Met Thr Val Asn Gly Ala Arg Ser Trp Ile  
85 90 95  
Gly Ile Trp Lys Leu Gly Gly Gln Pro Ser Glu Phe Gly Lys Val Val  
100 105 110  
Ile Ile Leu Thr Leu Ser Lys Phe Tyr Thr Glu Lys Lys Gly Tyr Asn  
115 120 125  
Glu Phe Phe Thr Phe Ile Thr Ala Phe Leu Leu Ile Phe Pro Ser Val  
130 135 140  
Ile Leu Ile Leu Leu Gln Pro Asp Phe Gly Thr Ala Ile Val Tyr Leu



145                      150                      155                      160  
 Thr Ile Phe Ile Phe Ile Ser Phe Phe Ala Gly Ile Asp Leu His Tyr  
                                  165                      170                      175  
 Val Leu Ala Phe Ala Leu Ile Gly Phe Phe Ser Phe Val Phe Ala Ile  
                                  180                      185                      190  
 Leu Pro Val Trp Tyr Glu Tyr Lys Val Asn Met Gly Asn Val Phe Tyr  
                                  195                      200                      205  
 Leu Ile Phe Ser Asn Pro Phe Tyr Phe Arg Val Ile Met Gly Val Leu  
                                  210                      215                      220  
 Leu Leu Ile Leu Leu Ile Ser Val Leu Gly Phe Phe Ile Ser Lys Tyr  
                                  225                      230                      235                      240  
 Gly Leu Ser Ile Lys Ile Ile Tyr Phe Tyr Val Phe Phe Ala Ser Ser  
                                  245                      250                      255  
 Ile Leu Leu Val Ser Ile Val Phe Ser Lys Val Leu Ser Lys Leu Met  
                                  260                      265                      270  
 Lys Thr Tyr Gln Ile Lys Arg Phe Leu Val Phe Leu Asp Pro Ala Ile  
                                  275                      280                      285  
 Asp Ala Lys Gly Ala Gly Trp Asn Leu Asn Gln Val Lys Ile Ala Ile  
                                  290                      295                      300  
 Gly Ser Gly Gly Leu Leu Gly Lys Gly Phe Leu Lys Gly Pro Tyr Thr  
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 His Ala Asn Tyr Val Pro Ser Gln Ser Thr Asp Phe Ile Phe Ser Ile  
                                  325                      330                      335  
 Leu Ala Glu Glu Phe Gly Phe Leu Gly Val Ser Thr Ile Leu Ile Leu  
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 Phe Phe Phe Leu Phe Phe Lys Phe Leu Ile Ile Met Asn Lys Ser Gln  
                                  355                      360                      365  
 Asp Arg Tyr Met Ala Leu Val Ile Ser Gly Ile Leu Gly Leu Leu Phe  
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 Phe His Thr Ser Phe Asn Val Gly Met Ser Leu Gly Val Leu Pro Ile  
                                  385                      390                      395                      400  
 Thr Gly Ile Pro Phe Pro Phe Leu Ser Tyr Gly Gly Ser Ser Thr Ile  
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 Thr Phe Phe Leu Ala Met Ser Phe Tyr Phe Asn Ile Glu Ser Ile Val  
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 Ala Met Asp  
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 <212> DNA  
 <213> Homo sapiens

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<212> PRT  
<213> Homo sapiens

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35 40 45  
Phe Cys Thr Met Leu Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro  
50 55 60  
Thr Pro Gly Ser Pro Ile Ser Ile Ala Leu Phe Leu Phe Leu Leu Lys  
65 70 75 80  
Ser Ile Phe Val Arg Val Leu Ile Ser Ala Ser Leu Pro Thr Lys Gly  
85 90 95  
Ser Asn Phe Leu Ala Phe Ala Ser Ala Val Lys Phe Leu Thr Tyr Phe  
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115 120 125  
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<211> 108  
<212> PRT  
<213> Homo sapiens

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Asp Ala Arg Pro Ser Thr Ile Ala Val Phe Pro Thr Pro Gly Ser Pro  
35 40 45  
Ile Ser Ile Ala Leu Phe Leu Phe Leu Leu Lys Ser Ile Phe Val Arg  
50 55 60  
Val Leu Ile Ser Ala Ser Leu Pro Thr Lys Gly Ser Asn Phe Leu Ala  
65 70 75 80  
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Ser Phe Ser Ser Arg Ile Ser Ser Ser Asn Ser Leu  
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<210> 39  
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<213> Homo sapiens

<400> 39  
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tcttgtagtt tgctacttat ttttttttgc actatgcttg atgcaaggcc ttcaactatt 180  
gctgtttttc ccacaccagg ttgcctatt agcattgcac tatttttatt tcttctcaag 240  
agtatatttg taagagtttt aatctctgct tctcttccaa ccaaggggtc taattttttg 300  
gcttttgcaa gtgctgttaa atttttgaca tactttccaa tttcaaagt ctcattttca 360  
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<211> 327  
<212> DNA  
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gtttttccca caccagggtc gcctattagc attgcactat ttttatttct tctcaagagt 180  
atatttgtaa gagttttaat ctctgcttct cttccaacca aggggtctaa ttttttggt 240  
tttgcaagtg ctgttaaatt ttgacatac tttccaattt caaagtgtct attttcaagt 300  
cgtatttctt catcaaattc ttgtag 327

<210> 41  
<211> 107  
<212> PRT  
<213> Homo sapiens

<400> 41  
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Arg Ile Leu Val Ile Val Leu Phe Leu Asn Ser Leu Leu Ser Leu Phe  
20 25 30  
Val Phe Leu Ala Gly Ser Tyr Asn Ile Phe Val Tyr Asn Phe Gln Lys  
35 40 45  
Phe Tyr Leu Asp Leu Ala Ile Ile Leu Ser Ser Val Ser Phe Gly Leu  
50 55 60  
Glu Ser Thr Arg Leu Ile Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile  
65 70 75 80  
Lys Tyr Tyr Leu Ile Leu Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala  
85 90 95  
Leu Val Phe Lys Ile Phe Leu Ser Gly Asn Lys  
100 105

<210> 42  
<211> 69  
<212> PRT  
<213> Homo sapiens

<400> 42  
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20 25 30

Phe Phe Tyr Phe Leu Lys Asn Lys Lys Ile Lys Tyr Tyr Leu Ile Leu  
 35 40 45

Ile Phe Ser Phe Ile Ile Phe Phe Ile Ala Leu Val Phe Lys Ile Phe  
 50 55 60

Leu Ser Gly Asn Lys  
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<210> 43  
 <211> 324  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
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 atttttgttt acaattttca gaaattttat ctgactcttg ctattatttt aagctctgtt 180  
 tcttttggac ttgaatctac tagactgata tttttttatt ttttgaaaaa taaaaaaatt 240  
 aagtattatt taattttaat ttttagtttt ataatttttt ttattgctct tgtttttaaa 300  
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<210> 44  
 <211> 210  
 <212> DNA  
 <213> Homo sapiens

<400> 44  
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 aaaattaagt attatttaat ttttaatttt agttttataa ttttttttat tgctcttggtt 180  
 tttaaaattt ttctttctgg taataaatag 210

<210> 45  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

<400> 45  
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 1 5 10 15

Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile  
 20 25 30

Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His  
 35 40 45

Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile  
 50 55 60

Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr  
 65 70 75 80

Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg  
 85 90 95

Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp  
 100 105 110

Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp  
115 120 125

Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe  
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Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn  
145 150 155

<210> 46

<211> 136

<212> PRT

<213> Homo sapiens

<400> 46

Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile Leu Tyr Ser  
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Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His Leu Glu Ile  
20 25 30

Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile Lys Leu Gly  
35 40 45

Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr Pro Met Gln  
50 55 60

Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg Glu Ile Leu  
65 70 75 80

Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp Leu Asn Ser  
85 90 95

Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp Lys Ile Gly  
100 105 110

Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe Val Val Leu  
115 120 125

Phe Gly Lys Arg Lys Tyr Lys Asn  
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<210> 47

<211> 468

<212> DNA

<213> Homo sapiens

<400> 47

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agaaaaaaat taaatctaaa ccatctagaa atagatgata cccttgaaaa agttgcaaaa 180  
gaatatgccca ttaaactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
gctcttatta atacagatac cgataaaata ggtggctata gattaaaaac gactgacaat 420  
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<210> 48

<211> 411

<212> DNA  
<213> Homo sapiens

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aaagaatatg ccattaaact gggagaaaat agaacaataa ctcacaccct ttttggcaca 180  
accccaatgc aaagaatata taaatacgat caatccttta atttaacaag agaaatactg 240  
gcatcaggaa ttgaacttaa cagagtagtt aatgcatggc ttaatagtcc aagccacaaa 300  
gaagctctta ttaatacaga taccgataaa ataggtggct atagattaaa aacgactgac 360  
aatatagata tattttagt tctttttgga aaaagaaaat ataagaattg a 411

<210> 49  
<211> 633  
<212> PRT  
<213> Homo sapiens

<400> 49  
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20 25 30  
Lys Leu Val Asp Gln Gln Phe Asn Leu Met Ile Asn Leu Ile Glu Ser  
35 40 45  
Ile Lys Ser Ser Phe Asn Leu Tyr Ile Ser Ser Met Glu Glu Lys Val  
50 55 60  
Arg Val Ser Ser Met Tyr Phe Asn Ser Ala Glu Lys Phe Asn Glu Ala  
65 70 75 80  
Ser Lys Ile Lys Ser Lys Arg Leu Ser Phe Ile Ser Asp Gln Ser Glu  
85 90 95  
Ile Leu Ile Gln Thr Gly Ser Asn Met Met Val Thr Asp Lys Glu Gly  
100 105 110  
Lys Ile Val Phe Thr Thr Ala Val Lys Asp Asn Ser Asp Phe Gly Lys  
115 120 125  
Ser Ile Gly Asp Arg Glu Tyr Phe Thr Lys Leu Lys Glu Ser Asn Ser  
130 135 140  
Ile Val Tyr Asn Ser Phe Val Met Leu Ala Asp Pro Gly Ser Ile Glu  
145 150 155 160  
Glu Ser Leu Leu Lys Asp Ile Ser Lys Ile Lys Asn Lys Lys Gly Gln  
165 170 175  
Ile Pro Tyr Ile Leu Ile Gly Met Pro Leu Arg Asp Phe Glu Thr Asp  
180 185 190  
Asn Ile Phe Gly Tyr Phe Met Phe Leu Tyr Ser Met Asp Tyr Ile Tyr  
195 200 205  
Arg Ser Phe Arg Gly Ile Asn Phe Gly Ile Leu Ser Ser Gly Arg Ala  
210 215 220

Leu Ala Tyr Asp Thr Thr Gly Arg Leu Leu Val His His Val Val Leu  
 225 230 235 240  
 Pro Gly Asp Ile Leu Thr Asp Ile Ser Ala Ser Tyr Ser Asn Ile Ile  
 245 250 255  
 Lys Lys Thr Ser Glu Asp Leu Leu Gln Lys Asn Lys Glu Ile Ser Thr  
 260 265 270  
 Val Tyr Tyr Tyr Asp Pro Lys Ser Asn Lys Lys Tyr Val Gly Ile Ser  
 275 280 285  
 Gln Lys Val Leu Leu Asn Leu Ser Asn Asn Lys Phe Ile Leu Leu Met  
 290 295 300  
 Arg Thr Ser Glu Asp Asp Phe Tyr Tyr Met Ser Arg Ala Thr Thr Ile  
 305 310 315 320  
 Ile Leu Ala Ile Ser Phe Val Phe Thr Leu Leu Met Leu Ala Ile Ala  
 325 330 335  
 Thr Leu Tyr Leu Val Lys Lys Leu Ser Ser Ser Leu Asn Lys Ile Leu  
 340 345 350  
 Glu Tyr Ser Glu Arg Leu Ala Ser Gly Asn Phe Thr Ala Asp Ile Asn  
 355 360 365  
 Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser Leu Tyr Glu Gly Leu  
 370 375 380  
 Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala Lys Gly Val Ile Glu  
 385 390 395 400  
 Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln Ile Ala Asn Ala Ser  
 405 410 415  
 Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala Ser Thr Leu Glu Gln  
 420 425 430  
 Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly Val Ser Glu Asn Thr  
 435 440 445  
 Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val Asn Thr Asn Glu Arg  
 450 455 460  
 Thr Lys Glu Gly His Lys Ser Val Val Lys Ala Ile Glu Ala Met Thr  
 465 470 475 480  
 Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu Ile Thr Arg Gln Thr  
 485 490 495  
 Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala Ala Arg Val Gly Glu  
 500 505 510  
 Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu Val Arg Lys Leu Ala  
 515 520 525  
 Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile Asp Ile Ala Asn Arg  
 530 535 540



Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn Phe Glu Gln Ile Val  
545 550 555 560

Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys Asn Ile Ser Asn Glu  
565 570 575

Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe Lys Asn Ala Ile Glu  
580 585 590

Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser Ser Ser Glu Glu Leu  
595 600 605

Ser Ala Met Ser Glu Lys Met Leu Glu Ser Val Lys Asp Leu Lys Glu  
610 615 620

Ser Val Asp Tyr Phe Lys Ile Glu Lys  
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<210> 50

<211> 606

<212> PRT

<213> Homo sapiens

<400> 50

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20 25 30

Met Glu Glu Lys Val Arg Val Ser Ser Met Tyr Phe Asn Ser Ala Glu  
35 40 45

Lys Phe Asn Glu Ala Ser Lys Ile Lys Ser Lys Arg Leu Ser Phe Ile  
50 55 60

Ser Asp Gln Ser Glu Ile Leu Ile Gln Thr Gly Ser Asn Met Met Val  
65 70 75 80

Thr Asp Lys Glu Gly Lys Ile Val Phe Thr Thr Ala Val Lys Asp Asn  
85 90 95

Ser Asp Phe Gly Lys Ser Ile Gly Asp Arg Glu Tyr Phe Thr Lys Leu  
100 105 110

Lys Glu Ser Asn Ser Ile Val Tyr Asn Ser Phe Val Met Leu Ala Asp  
115 120 125

Pro Gly Ser Ile Glu Glu Ser Leu Leu Lys Asp Ile Ser Lys Ile Lys  
130 135 140

Asn Lys Lys Gly Gln Ile Pro Tyr Ile Leu Ile Gly Met Pro Leu Arg  
145 150 155 160

Asp Phe Glu Thr Asp Asn Ile Phe Gly Tyr Phe Met Phe Leu Tyr Ser  
165 170 175

Met Asp Tyr Ile Tyr Arg Ser Phe Arg Gly Ile Asn Phe Gly Ile Leu  
180 185 190

Ser Ser Gly Arg Ala Leu Ala Tyr Asp Thr Thr Gly Arg Leu Leu Val  
 195 200 205  
 His His Val Val Leu Pro Gly Asp Ile Leu Thr Asp Ile Ser Ala Ser  
 210 215 220  
 Tyr Ser Asn Ile Ile Lys Lys Thr Ser Glu Asp Leu Leu Gln Lys Asn  
 225 230 235 240  
 Lys Glu Ile Ser Thr Val Tyr Tyr Tyr Asp Pro Lys Ser Asn Lys Lys  
 245 250 255  
 Tyr Val Gly Ile Ser Gln Lys Val Leu Leu Asn Leu Ser Asn Asn Lys  
 260 265 270  
 Phe Ile Leu Leu Met Arg Thr Ser Glu Asp Asp Phe Tyr Tyr Met Ser  
 275 280 285  
 Arg Ala Thr Thr Ile Ile Leu Ala Ile Ser Phe Val Phe Thr Leu Leu  
 290 295 300  
 Met Leu Ala Ile Ala Thr Leu Tyr Leu Val Lys Lys Leu Ser Ser Ser  
 305 310 315 320  
 Leu Asn Lys Ile Leu Glu Tyr Ser Glu Arg Leu Ala Ser Gly Asn Phe  
 325 330 335  
 Thr Ala Asp Ile Asn Phe Gly Lys Trp Asp Thr Val Glu Leu Tyr Ser  
 340 345 350  
 Leu Tyr Glu Gly Leu Glu Gln Leu Arg Thr Asn Phe Ser Ser Val Ala  
 355 360 365  
 Lys Gly Val Ile Glu Asn Leu Asp Tyr Leu Tyr Glu Asn Ala Ile Gln  
 370 375 380  
 Ile Ala Asn Ala Ser Gln Asn Leu Ser Ser Gly Ala Val Glu Gln Ala  
 385 390 395 400  
 Ser Thr Leu Glu Gln Met Thr Ala Asn Ile Glu Gln Ile Ser Gln Gly  
 405 410 415  
 Val Ser Glu Asn Thr Glu Asn Ala Ala Thr Thr Glu Lys Ile Ala Val  
 420 425 430  
 Asn Thr Asn Glu Arg Thr Lys Glu Gly His Lys Ser Val Val Lys Ala  
 435 440 445  
 Ile Glu Ala Met Thr Val Ile Thr Glu Lys Ile Gly Ile Ile Asp Glu  
 450 455 460  
 Ile Thr Arg Gln Thr Asn Leu Leu Ala Leu Asn Ala Ser Ile Glu Ala  
 465 470 475 480  
 Ala Arg Val Gly Glu Lys Gly Lys Gly Phe Glu Val Val Ala Ala Glu  
 485 490 495  
 Val Arg Lys Leu Ala Asp Gln Ser Lys Glu Ser Ala Arg Glu Ile Ile  
 500 505 510

Asp Ile Ala Asn Arg Ser Leu Thr Val Ala Ser Arg Ala Gly Glu Asn  
 515 520 525  
 Phe Glu Gln Ile Val Pro Gly Met Glu Gln Thr Ala Arg Leu Val Lys  
 530 535 540  
 Asn Ile Ser Asn Glu Ser Tyr Lys Gln Ser Val Gln Ile Glu Gln Phe  
 545 550 555 560  
 Lys Asn Ala Ile Glu Gln Val Ser Gln Leu Val Gln Thr Thr Ala Ser  
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 Ser Ser Glu Glu Leu Ser Ala Met Ser Glu Lys Met Leu Glu Ser Val  
 580 585 590  
 Lys Asp Leu Lys Glu Ser Val Asp Tyr Phe Lys Ile Glu Lys  
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<210> 51  
 <211> 1902  
 <212> DNA  
 <213> Homo sapiens

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<210> 52  
 <211> 1821  
 <212> DNA

<213> Homo sapiens

<400> 52

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gttgcaagtc gtgctgggga aaattttgaa caaatagttc ctggtatgga acaaacagcc 1620
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aaaaatgcaa tagagcaggt tagtcagtta gtccaaacta cagcctcaag cagtgaagag 1740
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<210> 53

<211> 229

<212> PRT

<213> Homo sapiens

<400> 53

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20 25 30

Glu Val Ala Ile Lys Lys Ala Gln Lys Leu Asn Lys Asn Val Leu Ile  
35 40 45

Leu Val Gly Arg Asp Ile Lys Glu Asn Leu Ile Lys Asp Phe Leu Asn  
50 55 60

Ser Phe Thr Asn Gly Glu Ile Ile His Lys Val Ser Arg Lys Ser Val  
65 70 75 80

Phe Leu Val Ile Asp Lys Asp Asn Glu Ile Phe Asn Lys Ile Asn Leu  
85 90 95

Gln Lys Ser Pro Thr Ile Phe Phe Val Asp Ser Lys Asn Glu Gln Ile

100					105					110					
Lys	Ala	Ala	Tyr	Val	Gly	Ala	Val	Leu	Ser	Ser	Val	Gln	Phe	Asp	Lys
	115						120					125			
Asp	Phe	Leu	Asn	Tyr	Val	Met	Gly	Ala	Ile	Lys	Ser	Thr	Ser	Val	Leu
	130					135					140				
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145					150					155					160
Phe	Tyr	Lys	Thr	Leu	Lys	Gly	Asp	Trp	Arg	Leu	Lys	Phe	Asn	Gly	Lys
			165					170						175	
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			180					185					190		
Phe	Lys	Asp	Ile	Asn	Glu	Asn	Lys	Leu	Tyr	Ala	Ile	Pro	Lys	Ser	Arg
	195						200					205			
Ile	Gly	Asn	Ile	Tyr	Phe	Ser	Leu	Leu	Gly	Asn	Glu	Glu	Trp	Lys	Leu
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Phe	Gly	Lys	Ile	Lys											
225															
<210> 54															
<211> 209															
<212> PRT															
<213> Homo sapiens															
<400> 54															
Leu	Pro	Pro	Glu	Asp	Ile	Ile	Phe	Glu	Ser	Ser	Tyr	Glu	Val	Ala	Ile
1				5					10					15	
Lys	Lys	Ala	Gln	Lys	Leu	Asn	Lys	Asn	Val	Leu	Ile	Leu	Val	Gly	Arg
			20					25					30		
Asp	Ile	Lys	Glu	Asn	Leu	Ile	Lys	Asp	Phe	Leu	Asn	Ser	Phe	Thr	Asn
	35						40					45			
Gly	Glu	Ile	Ile	His	Lys	Val	Ser	Arg	Lys	Ser	Val	Phe	Leu	Val	Ile
	50					55					60				
Asp	Lys	Asp	Asn	Glu	Ile	Phe	Asn	Lys	Ile	Asn	Leu	Gln	Lys	Ser	Pro
65				70					75					80	
Thr	Ile	Phe	Phe	Val	Asp	Ser	Lys	Asn	Glu	Gln	Ile	Lys	Ala	Ala	Tyr
			85					90					95		
Val	Gly	Ala	Val	Leu	Ser	Ser	Val	Gln	Phe	Asp	Lys	Asp	Phe	Leu	Asn
			100					105					110		
Tyr	Val	Met	Gly	Ala	Ile	Lys	Ser	Thr	Ser	Val	Leu	Lys	Lys	Gln	Lys
	115						120					125			
Asp	Tyr	Glu	Ile	Asn	Thr	Ala	Asp	Glu	Arg	Thr	Phe	Phe	Tyr	Lys	Thr
	130					135					140				
Leu	Lys	Gly	Asp	Trp	Arg	Leu	Lys	Phe	Asn	Gly	Lys	Asp	Arg	Lys	Leu

145 150 155 160  
Val Leu Phe Asp Thr Asp Leu Lys Glu Phe Leu Val Phe Lys Asp Ile  
165 170 175  
Asn Glu Asn Lys Leu Tyr Ala Ile Pro Lys Ser Arg Ile Gly Asn Ile  
180 185 190  
Tyr Phe Ser Leu Leu Gly Asn Glu Glu Trp Lys Leu Phe Gly Lys Ile  
195 200 205

Lys

<210> 55  
<211> 690  
<212> DNA  
<213> Homo sapiens

<400> 55  
atgagattta taattgcatt tttaatgatt ttaaactcaag gattttcaaa tttgttttct 60  
ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 120  
aaattgaata aaaatgtttt aattttgggt ggtagagata ttaaagaaaa ttttaataaaa 180  
gattttttta actcttttac aaatggtgaa attattcaca aagtatctag aaaaagtgtt 240  
tttttagtta ttgataagga taatgaaatt ttaataaaaa ttaatctaca aaaaagtccg 300  
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 360  
ttgagcagtg ttcaatttga taaggatttt ttaaactatg ttatgggagc tataaaatca 420  
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 480  
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 540  
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 600  
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 660  
gaatggaagc tttttgaaa aataaaataa 690

<210> 56  
<211> 630  
<212> DNA  
<213> Homo sapiens

<400> 56  
ttgcctccgg aagatattat ttttgagagt tcttatgagg ttgcaattaa aaaagctcaa 60  
aaattgaata aaaatgtttt aattttgggt ggtagagata ttaaagaaaa ttttaataaaa 120  
gattttttta actcttttac aaatggtgaa attattcaca aagtatctag aaaaagtgtt 180  
tttttagtta ttgataagga taatgaaatt ttaataaaaa ttaatctaca aaaaagtccg 240  
actatttttt ttgttgattc taagaatgag caaataaagg cagcttatgt gggagctgtt 300  
ttgagcagtg ttcaatttga taaggatttt ttaaactatg ttatgggagc tataaaatca 360  
acaagtgttt taaaaaagca aaaagattat gaaattaata ctgctgatga gagaaccttt 420  
ttttacaaaa cattaaaagg tgattggcga ttaaagttta atggtaaaga cagaaagctt 480  
gttctttttg atacagatct taaagaattt ttagttttta aagatattaa tgaaaacaag 540  
ctttatgcta ttcctaagtc taggattggt aatatttatt tttcattatt gggaaatgaa 600  
gaatggaagc tttttgaaa aataaaataa 630

<210> 57  
<211> 133  
<212> PRT  
<213> Homo sapiens

<400> 57  
Met Gln Asp Arg Lys Phe Ser Phe Arg Lys Tyr Phe Leu Ile Ser Val  
1 5 10 15

Phe Leu Ile Phe Ile Val Ser Gly Ile Thr Tyr Phe Tyr Ser Thr Gln  
                   20                                  25                                  30  
 Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp Ala Lys  
                   35                                  40                                  45  
 Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn Glu Cys  
                   50                                  55                                  60  
 Leu Asn Met Asp Asp Phe Phe Ile Pro Arg Pro Asp Phe Leu Asn Glu  
                   65                                  70                                  75                                  80  
 Asn Leu Asn Lys Asn Leu Val Val Asp Gly Leu Ile Lys Asn Lys Phe  
                                   85                                  90                                  95  
 Leu Asp Glu Asn Phe Phe Lys Asp Leu Trp Ile Lys Lys Glu Asn Leu  
                                   100                                  105                                  110  
 Phe Asn Val Asp Ile Glu Lys Glu Asn Glu Lys Leu Ile Asp Lys Ile  
                   115                                  120                                  125  
 Leu Glu Ile Ser Lys  
                   130

<210> 58  
 <211> 103  
 <212> PRT  
 <213> Homo sapiens

<400> 58  
 Thr Gln Met Leu Glu Lys Ser Gln Lys Cys Val Glu Asp Asn Leu Asp  
           1                                  5                                  10                                  15  
 Ala Lys Val Lys Leu Val Asp Met Glu Asp Phe Tyr Phe Asp Leu Asn  
                   20                                  25                                  30  
 Glu Cys Leu Asn Met Asp Asp Phe Phe Ile Pro Arg Pro Asp Phe Leu  
                   35                                  40                                  45  
 Asn Glu Asn Leu Asn Lys Asn Leu Val Val Asp Gly Leu Ile Lys Asn  
                   50                                  55                                  60  
 Lys Phe Leu Asp Glu Asn Phe Phe Lys Asp Leu Trp Ile Lys Lys Glu  
                   65                                  70                                  75                                  80  
 Asn Leu Phe Asn Val Asp Ile Glu Lys Glu Asn Glu Lys Leu Ile Asp  
                                   85                                  90                                  95  
 Lys Ile Leu Glu Ile Ser Lys  
                   100

<210> 59  
 <211> 402  
 <212> DNA  
 <213> Homo sapiens

<400> 59  
 atgcaagata gaaagtttag ttttagaaaa tatTTTTTtaa tttcagtatt tttgattttt 60  
 attgtttctg gtattactta tttctattca acacaaatgt tggaaaaatc tcaaaagtgt 120  
 gttgaagaca atttagacgc taaggTTTaa ttagttgata tggaagattt ttattttgat 180

ttaaataaat gtctaaatat ggatgatttt tttattccaa gacctgattt tttaaatgaa 240  
 aatttaaata agaatttagt tggtgatgga ttgattaaaa ataaatttct tgatgagaat 300  
 tttttcaagg atctttggat taaaaaggaa aattttattta acgttgatat tgagaaggag 360  
 aatgaaaaat taatagataa gatttttagaa atttccaaat ga 402

<210> 60  
 <211> 312  
 <212> DNA  
 <213> Homo sapiens

<400> 60  
 acacaaatgt tggaaaaatc tcaaaagtgt gttgaagaca atttagacgc taaggttaaa 60  
 ttagttgata tggaagattt ttattttgat ttaaataaat gtctaaatat ggatgatttt 120  
 tttattccaa gacctgattt tttaaatgaa aatttaaata agaatttagt tggtgatgga 180  
 ttgattaaaa ataaatttct tgatgagaat tttttcaagg atctttggat taaaaaggaa 240  
 aattttattta acgttgatat tgagaaggag aatgaaaaat taatagataa gatttttagaa 300  
 atttccaaat ga 312

<210> 61  
 <211> 346  
 <212> PRT  
 <213> Homo sapiens

<400> 61  
 Met Ile Arg Lys Tyr Leu Ile Tyr Ile Ser Leu Leu Phe Ile Val Phe  
 1 5 10 15  
 Glu Val Tyr Ser Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu  
 20 25 30  
 Leu Asp Phe Ser Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser  
 35 40 45  
 Lys Phe Asn Leu Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser  
 50 55 60  
 Ile Glu Asn Glu Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn  
 65 70 75 80  
 Gly Ala Val Phe Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys  
 85 90 95  
 Leu Val Phe Thr Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys  
 100 105 110  
 Ile Ile Ile Leu Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln  
 115 120 125  
 Gly Val Gly Gly Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn  
 130 135 140  
 Asn Leu Glu Leu Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu  
 145 150 155 160  
 Ile Ile Val Arg Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly  
 165 170 175  
 Ala Ile Asp Leu Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile  
 180 185 190



Leu Leu Lys Ala Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser  
 195 200 205  
 Tyr Glu Asn Tyr Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val  
 210 215 220  
 Phe Asp Leu Ile Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val  
 225 230 235 240  
 Leu Glu Asn Ala Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu  
 245 250 255  
 Ser Ile Tyr Leu Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His  
 260 265 270  
 Glu Phe Ala Leu Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn  
 275 280 285  
 Ser Ser Phe Ser Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu  
 290 295 300  
 Ser Glu Ser Lys His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys  
 305 310 315 320  
 Leu Val Ile Asp Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys  
 325 330 335  
 Ile Arg Tyr Leu Phe Leu Lys Arg Phe Phe  
 340 345  
 <210> 62  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens  
 <400> 62  
 Lys Pro Ala Phe Ile Ser Gln Asp Asp Ser Tyr Glu Leu Asp Phe Ser  
 1 5 10 15  
 Ser Gly Glu Val Asp Ile Ser Val Asn Thr Asn Ser Lys Phe Asn Leu  
 20 25 30  
 Ser Phe Lys Asp Glu Ser Trp Ile Tyr Ile Lys Ser Ile Glu Asn Glu  
 35 40 45  
 Ala Phe Ile Lys Leu Ile Gly Glu Ser Tyr Asp Asn Gly Ala Val Phe  
 50 55 60  
 Thr Phe Gln Thr Phe Lys Lys Glu Gly Lys Ile Lys Leu Val Phe Thr  
 65 70 75 80  
 Tyr Gln Asn Val Lys Asp Ser Ser Glu Phe Asn Lys Ile Ile Ile Leu  
 85 90 95  
 Lys Ile Thr Lys Asn Phe Glu Val Ala Ile Pro Gln Gly Val Gly Gly  
 100 105 110  
 Gly Ser Ser Arg Asp Asn Asn Ile Glu Thr Gly Asn Asn Leu Glu Leu  
 115 120 125

Gly Gly Gly Ser Ile Ser Gly Ala Thr Ser Lys Glu Ile Ile Val Arg  
 130 135 140  
 Ala Leu Asn Leu Ser Tyr Ile Asn Asp Tyr Lys Gly Ala Ile Asp Leu  
 145 150 155 160  
 Leu Asn Lys Tyr Asn Phe Asn Asp Asp Lys Tyr Ile Leu Leu Lys Ala  
 165 170 175  
 Glu Ile His Tyr Lys Asn Gly Asp Tyr Leu Lys Ser Tyr Glu Asn Tyr  
 180 185 190  
 Leu Lys Leu Lys Ser Lys Tyr Phe Gln Ser Ile Val Phe Asp Leu Ile  
 195 200 205  
 Arg Leu Ala Ile Glu Leu Asn Ile Lys Glu Glu Val Leu Glu Asn Ala  
 210 215 220  
 Arg Tyr Leu Val Glu Lys Asn Val Asp Phe Ser Glu Ser Ile Tyr Leu  
 225 230 235 240  
 Glu Ile Phe Glu Phe Leu Val Thr Arg Gly Glu His Glu Phe Ala Leu  
 245 250 255  
 Asn Phe Ser Ser Leu Tyr Phe Pro Lys Tyr Ile Asn Ser Ser Phe Ser  
 260 265 270  
 Asp Lys Tyr Ser Tyr Leu Leu Gly Lys Leu Tyr Glu Ser Glu Ser Lys  
 275 280 285  
 His Lys Asp Phe Leu Lys Ala Leu His Tyr Tyr Lys Leu Val Ile Asp  
 290 295 300  
 Asn Tyr Pro Phe Ser Tyr Tyr Tyr Glu Arg Ala Lys Ile Arg Tyr Leu  
 305 310 315 320  
 Phe Leu Lys Arg Phe Phe  
 325

<210> 63

<211> 1041

<212> DNA

<213> Homo sapiens

<400> 63

atgattagaa aatatttgat ttatataagt ttgctattta ttgtttttga agtttactct 60  
 aagccagctt ttataagtca agacgattcg tatgagcttg atttttagtag tggagaggta 120  
 gatattagtg taaataccaa ttcaaaattt aatctttctt ttaaagatga gtcttggatt 180  
 tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 240  
 ggtgctgttt ttacttttca gactttttaa aaagaaggca aaattaaatt ggttttcact 300  
 tatcaaaatg ttaaagattc aagtgaattt aataaaataa ttatcttgaa aattacaaag 360  
 aattttgaag ttgcaattcc acaaggcggt ggtggtggct ctagcaggga caataacatt 420  
 gaaactggta ataacttga acttgggggg gggagtatta gcggggcaac ttctaaagag 480  
 attattgtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 540  
 cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 600  
 aaaaatggtg attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 660  
 caaagcattg tttttgatct aattaggctt gctatagaat taaatattaa agaagagggt 720  
 ttagagaacg ctatatattt agttgaaaag aatgttgatt tttctgagag catttatctt 780  
 gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 840  
 ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttgttggga 900

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aaactttatg agtctgagag caagcataaa gatttttttaa aggcttttgca ttactataaa 960
ttgggttattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 1020
tttttaaagc gggtttttta g 1041

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<210> 64
<211> 981
<212> DNA
<213> Homo sapiens

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<400> 64
aagccagctt ttataagtca agacgattcg tatgagcttg attttagtag tggagaggta 60
gatatttagtg taaataccaa ttcaaaattt aatctttctt ttaaagatga gtcttggatt 120
tatatcaaaa gcattgaaaa tgaagctttt attaagttaa ttggagaatc ttatgataac 180
ggtgctggtt ttactttttca gactttttaa aaagaaggca aaattaaatt gggttttact 240
tatcaaaatg ttaaagattc aagtgaattt aataaaataa ttatcttgaa aattacaaag 300
aattttgaag ttgcaattcc acaaggcgtt ggtggtggct ctagcaggga caataacatt 360
gaaactggta ataacttgga acttgggggg gggagtatta gcggggcaac ttctaaagag 420
attattggtta gggcttttaa tttgtcctac ataaatgatt acaaaggagc aatagatttg 480
cttaataagt ataatttcaa tgacgataaa tatattttat tgaaggcgga aattcattat 540
aaaaatggtg attattttaa atcttatgaa aattatttga aattgaagag taaatatttt 600
caaagcattg tttttgatct aattaggctt gctatagaat taaatattaa agaagagggt 660
ttagagaacg ctagatattt agttgaaaag aatggttgatt tttctgagag catttatctt 720
gagatctttg aattcttagt aacaagggga gagcatgagt ttgcttttaa ttttagctct 780
ctttactttc ctaagtatat taattcaagc ttttcagaca aatatagtta tttggtggga 840
aaactttatg agtctgagag caagcataaa gattttttta aggcttttgca ttactataaa 900
ttgggttattg ataattaccc ttttagttat tattatgaga gagccaagat aagatattta 960
tttttaaagc gggtttttta g 981

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<210> 65
<211> 505
<212> PRT
<213> Homo sapiens

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<400> 65
Met Thr Lys Val Leu Val Val Ser Ala Ile Ala Leu Leu Ser Lys Asp
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Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe Phe
 20          25          30

Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val Phe Asn
 35          40          45

Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser Asn Val
 50          55          60

Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile Asp Leu
 65          70          75          80

Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn Leu Asp
 85          90          95

Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn Leu Asn
100          105          110

Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala Gly Thr
115          120          125

Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser Tyr Asn
130          135          140

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Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile Val Ile  
 145 150 155 160  
 Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln Lys Ser  
 165 170 175  
 Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp Lys Val  
 180 185 190  
 Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala Tyr Glu  
 195 200 205  
 Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys Tyr Glu  
 210 215 220  
 Lys Val Gly Glu Asp Leu Ile Ile Ser Lys Ile Glu Lys Tyr Glu Tyr  
 225 230 235 240  
 Ser Asn Val Gln Gly Arg Tyr Cys Leu Ser Ser Val Ser Glu Lys Val  
 245 250 255  
 Gly Lys Ile Asp Asn Asn Ile Tyr Lys Thr Leu Lys Asn Leu Ser Lys  
 260 265 270  
 Asp Glu Val Tyr Lys Phe Leu His Gly Val Trp Tyr Asp Val His Asp  
 275 280 285  
 Tyr Asn Lys Met His Val Lys Asp Ile Asp Glu Val Leu Phe Leu Ser  
 290 295 300  
 Phe Glu Arg Gln Ser Ser Glu Ile Asn Leu Phe Arg Lys Asn Ser Gln  
 305 310 315 320  
 Glu Val Ala Lys Ile Glu Tyr Ile Ser Lys Pro Ala Tyr Asn Thr Leu  
 325 330 335  
 Asn Val Ser Ala Lys Ser Leu Phe Ser Asp Leu Ile Val Tyr Asn Phe  
 340 345 350  
 Trp Ile Lys Ile Val Asp Lys Glu Asn Ile Glu Ile Lys Ile Asp Thr  
 355 360 365  
 Ser Thr Asn Ser Tyr Asp Asn Ser Gly Phe Ser Gly Thr Phe Lys Arg  
 370 375 380  
 Phe Asp Glu Asn Val Leu Asn Val Lys Lys Gly Ser Ser Asp Ile Tyr  
 385 390 395 400  
 Phe Ile Pro Ser Gly Asn Tyr Val Tyr Lys Asp Lys Ile Tyr Asp Phe  
 405 410 415  
 Ser Tyr Pro His Leu Thr Tyr Ile Asp Glu Asn Lys Ile Tyr Tyr Gly  
 420 425 430  
 Ile Phe Asn Ile Phe Pro Leu Lys Asn Asn Phe Val Leu Glu Tyr Glu  
 435 440 445  
 Ile Asp Met Gly Ser Tyr Lys Leu Val Glu Ser Phe Phe Leu Glu His  
 450 455 460

Ser Glu Arg Ile Val Gln Lys Gln Lys Phe Ser Thr Ile Ile Leu Asn  
 465 470 475 480  
 Pro Ile Lys Ile Leu Lys Asp Asp Val Ser Leu Val Lys Gly Gln Lys  
 485 490 495  
 Leu Lys Leu Glu Arg Ile Glu Lys Ile  
 500 505  
 <210> 66  
 <211> 491  
 <212> PRT  
 <213> Homo sapiens  
 <400> 66  
 Lys Asp Lys Glu Leu Ile Pro Phe Tyr Lys Phe Leu Phe Leu Phe Phe  
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 Phe Phe Thr Leu Leu Ala Cys Ser Lys Val Ser Lys Asp Phe Ile Val  
 20 25 30  
 Phe Asn Lys Asp Val Lys Thr Ser Ser Arg Ile Asp Asn Pro Asn Ser  
 35 40 45  
 Asn Val Leu Glu Val Asn Lys Met Glu Asp Phe Phe Gly Asp Ile Ile  
 50 55 60  
 Asp Leu Lys Gly Tyr Lys Ile Leu Ser Val Gln Gln Glu Asn Leu Asn  
 65 70 75 80  
 Leu Asp Val Tyr Phe Glu Gln Val Val Leu Ala Gln Asn Phe Ser Asn  
 85 90 95  
 Leu Asn Ala Tyr Leu Phe Ile Ile Gly Phe Asp Pro Lys Ile Lys Ala  
 100 105 110  
 Gly Thr Ile Leu Phe Lys Thr Gln Ile Asp Ile Asp Pro Lys Asn Ser  
 115 120 125  
 Tyr Asn Met Tyr Leu Glu Asp Ile Thr Gly Asp Tyr Asp Phe Asn Ile  
 130 135 140  
 Val Ile Gln Gly Phe Leu Lys Asp Lys Ser Val Leu Tyr Val Phe Gln  
 145 150 155 160  
 Lys Ser Val Leu Asn Asp Val Ser Ser Tyr Arg Pro Ile Phe Phe Asp  
 165 170 175  
 Lys Val Asn Gly Thr Val Leu Ile Asn Lys Tyr Ala Arg Ser Ser Ala  
 180 185 190  
 Tyr Glu Glu Asn Arg Ser Arg Glu Ser Tyr Pro Ile Ser Leu Glu Lys  
 195 200 205  
 Tyr Glu Lys Val Gly Glu Asp Leu Ile Ile Ser Lys Ile Glu Lys Tyr  
 210 215 220  
 Glu Tyr Ser Asn Val Gln Gly Arg Tyr Cys Leu Ser Ser Val Ser Glu  
 225 230 235 240

Lys Val Gly Lys Ile Asp Asn Asn Ile Tyr Lys Thr Leu Lys Asn Leu  
 245 250 255  
 Ser Lys Asp Glu Val Tyr Lys Phe Leu His Gly Val Trp Tyr Asp Val  
 260 265 270  
 His Asp Tyr Asn Lys Met His Val Lys Asp Ile Asp Glu Val Leu Phe  
 275 280 285  
 Leu Ser Phe Glu Arg Gln Ser Ser Glu Ile Asn Leu Phe Arg Lys Asn  
 290 295 300  
 Ser Gln Glu Val Ala Lys Ile Glu Tyr Ile Ser Lys Pro Ala Tyr Asn  
 305 310 315 320  
 Thr Leu Asn Val Ser Ala Lys Ser Leu Phe Ser Asp Leu Ile Val Tyr  
 325 330 335  
 Asn Phe Trp Ile Lys Ile Val Asp Lys Glu Asn Ile Glu Ile Lys Ile  
 340 345 350  
 Asp Thr Ser Thr Asn Ser Tyr Asp Asn Ser Gly Phe Ser Gly Thr Phe  
 355 360 365  
 Lys Arg Phe Asp Glu Asn Val Leu Asn Val Lys Lys Gly Ser Ser Asp  
 370 375 380  
 Ile Tyr Phe Ile Pro Ser Gly Asn Tyr Val Tyr Lys Asp Lys Ile Tyr  
 385 390 395 400  
 Asp Phe Ser Tyr Pro His Leu Thr Tyr Ile Asp Glu Asn Lys Ile Tyr  
 405 410 415  
 Tyr Gly Ile Phe Asn Ile Phe Pro Leu Lys Asn Asn Phe Val Leu Glu  
 420 425 430  
 Tyr Glu Ile Asp Met Gly Ser Tyr Lys Leu Val Glu Ser Phe Phe Leu  
 435 440 445  
 Glu His Ser Glu Arg Ile Val Gln Lys Gln Lys Phe Ser Thr Ile Ile  
 450 455 460  
 Leu Asn Pro Ile Lys Ile Leu Lys Asp Asp Val Ser Leu Val Lys Gly  
 465 470 475 480  
 Gln Lys Leu Lys Leu Glu Arg Ile Glu Lys Ile  
 485 490

<210> 67  
 <211> 1518  
 <212> DNA  
 <213> Homo sapiens

<400> 67  
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 ccattttata aatttttgtt tttattcttt ttttttacat tacttgcttg ttccaaggta 120  
 agcaaagatt ttattgtttt taacaaagat gtaaagactt cttccaggat cgataatcca 180  
 aattccaatg ttttagaagt taataaaatg gaagattttt ttggagatat tatagattta 240  
 aaaggttata aaattctttc agttcagcag gaaaatttaa atttagatgt gtattttgag 300

cagggtggttt	tagctcaaaa	tttttcaaat	cttaatgcat	atttggtttat	tattgggtttt	360
gatcctaata	ttaaagctgg	aacgattctt	tttaaaactc	aaatagatat	tgatccaaaa	420
aattcttata	acatgtatct	tgaagatatt	acagggtgatt	atgattttta	tatagttatt	480
caaggattttt	taaaagataa	atctgttttg	tatgtttttc	aaaaatctgt	tttaaatgat	540
gtgtcttctt	ataggcctat	atgtttttgac	aaagttaatg	gaactgttct	tattaataag	600
tatgcaagat	cttcagctta	tgaagaaaac	agatcaagag	aaagctatcc	tatttcttta	660
gaaaaatatg	aaaaagtggg	ggaagattta	ataattagca	agattgaaaa	atatgaatat	720
tctaattgttc	agggtagata	ttgtctttct	tctgtgagcg	aaaaagtttg	taaaattgat	780
aataatattt	ataaaacttt	aaagaattta	agcaaagatg	aagtttataa	atttttgcat	840
ggagtttggg	atgatgttca	tgactataat	aaaatgcatg	tcaaagatat	tgatgaagtt	900
ttattcttgt	cttttgaaag	gcaatcaagc	gagattaatc	ttttcaggaa	aaattctcaa	960
gaagttgcaa	agattgaata	tatttcaaaa	cctgtcttaca	atactcttaa	tgtagtgca	1020
aagtctcttt	tttcagattt	gatagtttat	aacttttgga	tcaaaattgt	agataaagaa	1080
aacattgaaa	tcaaaattga	cactagcaca	aattcttatg	ataatagtgg	attttcgggt	1140
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ttccttgagc	atagcgaaag	aattgttcaa	aagcaaaaat	tttctacaat	cattttaaat	1440
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<210> 68

<211> 1476

<212> DNA

<213> Homo sapiens

<400> 68

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tccaggatcg	ataatccaaa	ttccaatggt	ttagaagtta	ataaaatgga	agattttttt	180
ggagatatta	tagattttaa	aggttataaa	attcctttcag	ttcagcagga	aaattttaaat	240
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ttgtttatta	ttgggtttga	tcctaaaatt	aaagctggaa	cgattctttt	taaaactcaa	360
atagatatgt	atccaaaaaa	ttcttataac	atgtatcttg	aagatattac	aggtgattat	420
gatttttaata	tagttattca	aggattttta	aaagataaat	ctgttttgta	tgtttttcaa	480
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gatttttctt	acccccattt	aacttatatt	gatgagaata	aaatttatta	tggtattttt	1260
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aagcttggtg	aatctttttt	ccttgagcat	agcgaaagaa	ttgttcaaaa	gcaaaaattt	1380
tctacaatca	ttttaaatcc	tattaaatcc	ttaaaagatg	atgtaagctt	agttaaaggg	1440
caaaaattaa	agcttgagcg	aatagaaaaa	atatga			1476

<210> 69

<211> 179

<212> PRT

<213> Homo sapiens

<400> 69

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 20 25 30  
 Ala Gly Glu Lys Leu Leu Val Tyr Glu Thr Ser Lys Gln Asp Pro Ile  
 35 40 45  
 Val Pro Phe Leu Leu Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe  
 50 55 60  
 Ala Gln Gly Asp Ile Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala  
 65 70 75 80  
 Val Gly Ile Gly Leu Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala  
 85 90 95  
 Leu Asp Gly Ile Thr Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys  
 100 105 110  
 Gly Val Met Leu Ala Gly Val Val Thr Met Ala Val Thr Arg Leu Thr  
 115 120 125  
 Glu Ile Ile Leu Pro Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu  
 130 135 140  
 Lys Asn Ser Leu Asn Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp  
 145 150 155 160  
 Val Ala Met Gly Gln Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys  
 165 170 175  
 Lys Ser Tyr

<210> 70  
 <211> 158  
 <212> PRT  
 <213> Homo sapiens

<400> 70  
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 Asn Leu Phe Leu Gly Phe Gly Ile Gly Ser Phe Ala Gln Gly Asp Ile  
 35 40 45  
 Leu Gly Gly Ser Leu Ile Leu Gly Phe Asp Ala Val Gly Ile Gly Leu  
 50 55 60  
 Ile Leu Ala Gly Ala Tyr Leu Asp Ile Lys Ala Leu Asp Gly Ile Thr  
 65 70 75 80  
 Lys Lys Ala Ala Phe Gln Trp Thr Trp Gly Lys Gly Val Met Leu Ala  
 85 90 95



Gly Val Val Thr Met Ala Val Thr Arg Leu Thr Glu Ile Ile Leu Pro  
100 105 110

Phe Thr Phe Ala Asn Ser Tyr Asn Arg Lys Leu Lys Asn Ser Leu Asn  
115 120 125

Val Ala Leu Gly Gly Phe Glu Pro Ser Phe Asp Val Ala Met Gly Gln  
130 135 140

Ser Ser Ala Leu Gly Phe Glu Leu Ser Phe Lys Lys Ser Tyr  
145 150 155

<210> 71  
<211> 540  
<212> DNA  
<213> Homo sapiens

<400> 71  
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gaaactagca agcaagatcc tattgtacca tttttattga accttttttt agggtttggg 180  
ataggctcct ttgctcaagg agatattcct ggaggttctc ttattcttgg atttgatgcg 240  
gttggtatag ggcttatact tgcggggggct tatttggata tcaaagcgct tgatgggtatt 300  
actaaaaaag ctgctttttca atggacttgg ggtaagggag ttatgttagc aggtgtgggt 360  
actatggctg tgacaagatt aacagaaatt attcttccat ttacatttgc taatagttat 420  
aataggaagc taaaaaatag ccttaatgta gctttaggag gatttgaacc tagttttgat 480  
gttgcaatgg gccaatccag tgctcttggg tttgaactgt ctttcaaaaa aagctattaa 540

<210> 72  
<211> 477  
<212> DNA  
<213> Homo sapiens

<400> 72  
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actagcaagc aagatcctat tgtaccattt ttattgaacc tttttttagg gtttgggaata 120  
ggctcctttg ctcaaggaga tattcttggg gggtctctta ttcttggatt tgatgcgggt 180  
ggtatagggc ttatacttgc gggggccttat ttggatatca aagcgcttga tgggtattact 240  
aaaaaagctg cttttcaatg gacttggggg aagggagtta tgtagcagg tgtgggttact 300  
atggctgtga caagattaac agaaattatt cttccattta catttgctaa tagttataat 360  
aggaagctaa aaaatagcct taatgtagct ttaggaggat ttgaacctag ttttgatggt 420  
gcaatgggccc aatccagtgc tcttgggttt gaactgtctt tcaaaaaaag ctattaa 477

<210> 73  
<211> 212  
<212> PRT  
<213> Homo sapiens

<400> 73  
Met Arg Lys Tyr Ile Phe Ile Ile Leu Ile Ala Val Leu Leu Ile Gly  
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Val Asn Ile Lys Lys Ile Ala Ala Ala Asn Ile Asp Arg His Thr  
20 25 30

Asn Ser Thr Leu Gly Ile Asp Leu Ser Val Gly Ile Pro Ile Phe Tyr  
35 40 45

Asn Asp Leu Ser Lys Ala Tyr Pro Thr Asn Leu Tyr Pro Gly Gly Ile  
50 55 60

Gly Ala Ile Lys Tyr Gln Tyr His Ile Leu Asn Asn Leu Ala Ile Gly  
 65 70 75 80  
 Leu Glu Leu Arg Tyr Met Phe Asn Phe Asp Ile Asn His Ser Phe Asn  
 85 90 95  
 Ile Leu Asn Pro Asp Ser Ser Val Gly Lys Ile Phe Tyr Ser Val Pro  
 100 105 110  
 Ile Thr Phe Ser Ile Asn Tyr Ile Phe Asp Ile Gly Glu Leu Phe Gln  
 115 120 125  
 Ile Pro Val Phe Thr Asn Ile Gly Phe Ser Leu Asn Thr Tyr Gly Asp  
 130 135 140  
 Arg Asn Asn Asn Ile Thr Asn Leu Arg Thr Phe Asp Ala Leu Pro Thr  
 145 150 155 160  
 Ile Ser Phe Gly Ser Gly Ile Leu Trp Asn Phe Asn Tyr Lys Trp Ala  
 165 170 175  
 Phe Gly Ala Thr Ala Ser Trp Trp Met Met Phe Glu Phe Gly Asn Ser  
 180 185 190  
 Ala Lys Met Ala His Phe Ala Leu Val Ser Leu Ser Val Thr Val Asn  
 195 200 205  
 Val Asn Lys Leu  
 210

<210> 74  
 <211> 187  
 <212> PRT  
 <213> Homo sapiens

<400> 74  
 Ala Asn Ile Asp Arg His Thr Asn Ser Thr Leu Gly Ile Asp Leu Ser  
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 Val Gly Ile Pro Ile Phe Tyr Asn Asp Leu Ser Lys Ala Tyr Pro Thr  
 20 25 30  
 Asn Leu Tyr Pro Gly Gly Ile Gly Ala Ile Lys Tyr Gln Tyr His Ile  
 35 40 45  
 Leu Asn Asn Leu Ala Ile Gly Leu Glu Leu Arg Tyr Met Phe Asn Phe  
 50 55 60  
 Asp Ile Asn His Ser Phe Asn Ile Leu Asn Pro Asp Ser Ser Val Gly  
 65 70 75 80  
 Lys Ile Phe Tyr Ser Val Pro Ile Thr Phe Ser Ile Asn Tyr Ile Phe  
 85 90 95  
 Asp Ile Gly Glu Leu Phe Gln Ile Pro Val Phe Thr Asn Ile Gly Phe  
 100 105 110  
 Ser Leu Asn Thr Tyr Gly Asp Arg Asn Asn Asn Ile Thr Asn Leu Arg  
 115 120 125

Thr Phe Asp Ala Leu Pro Thr Ile Ser Phe Gly Ser Gly Ile Leu Trp  
 130 135 140

Asn Phe Asn Tyr Lys Trp Ala Phe Gly Ala Thr Ala Ser Trp Trp Met  
 145 150 155 160

Met Phe Glu Phe Gly Asn Ser Ala Lys Met Ala His Phe Ala Leu Val  
 165 170 175

Ser Leu Ser Val Thr Val Asn Val Asn Lys Leu  
 180 185

<210> 75  
 <211> 639  
 <212> DNA  
 <213> Homo sapiens

<400> 75  
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 aaaattgcgg cgcagccaa tattgatagg catacaaact ccactttagg aatagattta 120  
 agtgtaggaa tccctatttt ttacaacgac ttatcaaaag cttatcctac caatttatat 180  
 ccaggaggtta ttggggcaat aaaataccag taccatattt taaacaattt agcaattgga 240  
 cttgaactaa ggtatatgtt taactttgat attaaccatt cttttaatat attaaatcca 300  
 gattcaagtg taggtaaaaat tttttatagc gtgcctatta cattttcaat aaattatata 360  
 tttgatatag gagaattatt tcaaattcca gtcttcacaa atatagggtt ttctcttaat 420  
 acatatggag atagaaaacaa caatattaca aatttaagaa cttttgatgc actccctaca 480  
 atctcttttg gatctggaat tttatggaac tttaactata aatgggcttt tggagcaaca 540  
 gcatcttggt ggatgatgtt tgaatttgga aattctgcta aaatggcaca ttttgcactt 600  
 gtatcattat cagttacagt gaatgtaaat aaattgtag 639

<210> 76  
 <211> 564  
 <212> DNA  
 <213> Homo sapiens

<400> 76  
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 gcaataaaat accagtacca tatttttaaac aatttagcaa ttggacttga actaagggtat 180  
 atgtttaact ttgatattaa ccattctttt aatatattaa atccagattc aagtgtagggt 240  
 aaaatttttt atagcgtgcc tattacattt tcaataaatt atatatttga tataggagaa 300  
 ttattttcaaa ttccagtctt cacaaatata gggttttctc ttaatacata tggagataga 360  
 aacaacaata ttacaaattt aagaactttt gatgcactcc ctacaatctc ttttggatct 420  
 ggaattttat ggaactttta ctataaatgg gcttttggag caacagcatc ttggtggatg 480  
 atgtttgaat ttggaaattc tgctaaaatg gcacattttg cacttgtatc attatcagtt 540  
 acagtgaatg taaataaatt gtag 564

<210> 77  
 <211> 379  
 <212> PRT  
 <213> Homo sapiens

<400> 77  
 Met Lys Asn Gln Phe Leu Asn Ser Tyr Phe Gln Leu Ile Thr Thr Ile  
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Phe Leu Ile Ser Ser Ile Thr Ile Ala Ala Glu Glu Ile Thr Ser Thr  
 20 25 30

Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile Phe Leu Asn Asn Thr  
 35 40 45  
 Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln Asp Gly Asn Ile Phe  
 50 55 60  
 Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val Thr Lys Asn Arg Lys  
 65 70 75 80  
 Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro Ile Gly Ile Asp Tyr  
 85 90 95  
 Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp Lys Ile Tyr Val Val  
 100 105 110  
 Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile Lys Ser His Lys Asp  
 115 120 125  
 Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu Pro Lys Asn Asn Ser  
 130 135 140  
 Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp Ser Lys Asn Asn Lys  
 145 150 155 160  
 Leu Ile Val Asn Ile Gly Ser Gln His Asn Val Lys Ile Pro Pro Lys  
 165 170 175  
 Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys Thr Lys Lys Glu Glu  
 180 185 190  
 Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly Phe Asp Phe His Pro  
 195 200 205  
 Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly Gln Asp Gly Leu Gly  
 210 215 220  
 Asp Asn Ile Pro Pro Asp Glu Ile Asn Val Ile Thr Glu Tyr Lys Glu  
 225 230 235 240  
 His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn Gln Lys Asn Tyr Gly  
 245 250 255  
 Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe Ile Pro Ser Ile Tyr  
 260 265 270  
 Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile His Phe Tyr Arg Gly  
 275 280 285  
 Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu Phe Ile Ala Glu His  
 290 295 300  
 Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr Lys Ile Thr Thr Leu  
 305 310 315 320  
 Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn Tyr Lys Thr Phe Leu  
 325 330 335  
 Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe Gly Arg Pro Val Asp  
 340 345 350

Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe Thr Asp Asp Phe Gly  
 355 360 365

Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
 370 375

<210> 78  
 <211> 352  
 <212> PRT  
 <213> Homo sapiens

<400> 78  
 Glu Ile Thr Ser Thr Leu Lys Val Pro Asn Gly Phe Lys Val Glu Ile  
 1 5 10 15

Phe Leu Asn Asn Thr Ile Glu Lys Pro Arg Gly Ile Thr Ser Asp Gln  
 20 25 30

Asp Gly Asn Ile Phe Ile Gly Ser Gly Ser Thr Phe Ala Tyr Phe Val  
 35 40 45

Thr Lys Asn Arg Lys Ile Tyr Thr Ile Ala Lys Thr Leu Gln Lys Pro  
 50 55 60

Ile Gly Ile Asp Tyr Trp Asp Asn Lys Leu Tyr Ile Ser Ser Val Asp  
 65 70 75 80

Lys Ile Tyr Val Val Lys Asn Val Lys Glu Glu Ile Asn Lys Ser Ile  
 85 90 95

Lys Ser His Lys Asp Tyr Thr Trp Lys Met Gln Ile Phe Ala Leu Leu  
 100 105 110

Pro Lys Asn Asn Ser Gln Met His Ser Gly Arg Tyr Ile Lys Val Asp  
 115 120 125

Ser Lys Asn Asn Lys Leu Ile Val Asn Ile Gly Ser Gln His Asn Val  
 130 135 140

Lys Ile Pro Pro Lys Lys Glu Ala Val Ile Leu Ser Ile Asn Leu Lys  
 145 150 155 160

Thr Lys Lys Glu Glu Ile Val Ala Phe Gly Val Arg Asn Ser Val Gly  
 165 170 175

Phe Asp Phe His Pro Ile Ser Asn Glu Ile Tyr Phe Ser Asp Asn Gly  
 180 185 190

Gln Asp Gly Leu Gly Asp Asn Ile Pro Pro Asp Glu Ile Asn Val Ile  
 195 200 205

Thr Glu Tyr Lys Glu His Phe Gly Phe Pro Tyr Val Phe Gly Lys Asn  
 210 215 220

Gln Lys Asn Tyr Gly Phe Tyr Asn Lys Ala Pro Lys Asn Thr Lys Phe  
 225 230 235 240

Ile Pro Ser Ile Tyr Glu Leu Pro Ala His Val Ala Pro Leu Gly Ile  
 245 250 255

His Phe Tyr Arg Gly Asn Asn Phe Pro Lys Glu Tyr Ile Asn Lys Leu  
260 265 270

Phe Ile Ala Glu His Gly Ser Trp Asn Arg Ser Ser Pro Val Gly Tyr  
275 280 285

Lys Ile Thr Thr Leu Asp Ile Asp Ser Lys Thr Arg Thr Ala Arg Asn  
290 295 300

Tyr Lys Thr Phe Leu Tyr Gly Phe Leu Lys His Asp Lys Ser Lys Phe  
305 310 315 320

Gly Arg Pro Val Asp Ile Ile Thr Tyr Tyr Asp Gly Ser Ile Leu Phe  
325 330 335

Thr Asp Asp Phe Gly Asn Lys Ile Tyr Arg Val Tyr Tyr Glu Lys Ile  
340 345 350

<210> 79

<211> 1140

<212> DNA

<213> Homo sapiens

<400> 79

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gtcgaaattt ttttaaacia tacaattgaa aaacctagag gaatcacaag cgatcaagat 180
ggaaatatat tcataggatc tgggaagcact tttgcatact ttgtaacaaa aaacagaaaa 240
atztatacca tagcaaaaaa cctgcaaaaa cctatttggtt ttgattattg ggataataaa 300
ctctacatat cttctgtcga taaaatatat gtagttaaaa atgtaaaaga agaaattaat 360
aaaagcataa aatcacataa agactataca tggaaaatgc aaatttttgc acttttgcca 420
aaaaataatt ctcaaatgca ctccaggacgt tacattaaag tagattctaa aaataacaaa 480
ttaatagtaa atataggatc ccagcacaaat gttaaaattc ccccaaaaaa agaagcagta 540
atccttagta ttaattttaa aacaaaaaaa gaagaaatag tagcttttgg agtgagaaac 600
tcagttgggt ttgattttca cccaattagc aatgaaatat attttagcga caatggccaa 660
gacggattag gagacaacat tccccagat gaaataaacg taataaccga atataaagaa 720
cattttggat ttccctatgt gtttgaaaaa aatcaaaaaa attacgggtt ttataacaaa 780
gcacccaaaa acactaagtt tatcccatct atttacgaac ttcccgca tgtagctcca 840
cttggaaatac actttttacc gggaaataac tttccaaaag aatacataaa taaattattc 900
atagcagaac acggctcgtg gaacagatct tctcctgttg gctacaaaat aacaacacta 960
gacattgatt ctaaaaccag aacagcaaga aattacaaga cttttttata tggattttta 1020
aagcacgaca aatctaaatt tggacgccct gttgatataa tcacatatta tgacggttca 1080
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<210> 80

<211> 1059

<212> DNA

<213> Homo sapiens

<400> 80

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ggaagcactt ttgcatactt tgtaacaaaa aacagaaaaa tttataccat agcaaaaacc 180
ctgcaaaaac ctatttggtat tgattattgg aataataaac tctacatata ttctgtcgat 240
aaaatatatg tagttaaaaa tgtaaaagaa gaaattaata aaagcataaa atcacataaa 300
gactatacat ggaaaatgca aatttttgca cttttgccaa aaaataattc tcaaatgcac 360
tcaggacgtt acattaaagt agattctaaa aataacaaat taatagtaaa tataggatcc 420
cagcacaatg ttaaaattcc cccaaaaaaa gaagcagtaa tccttagtat taattttaa 480
acaaaaaaag aagaaatagt agcttttgga gtgagaaaact cagttgggtt tgattttcac 540
ccaattagca atgaaatata ttttagcgac aatggccaag acggattagg agacaacatt 600
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ccccagatg aaataaacgt aataaccgaa tataaagaac attttggatt tccctatgtg 660
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atcccatcta tttagcaact tcccgacacat gtagctccac ttggaatata cttttaccgg 780
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aacagatctt ctctgtgttg ctacaaaata acaacactag acattgattc taaaaccaga 900
acagcaagaa attacaagac ttttttatat ggatttttaa agcacgacaa atctaaattt 960
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<210> 81  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

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<400> 81
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Ile Trp Phe Phe Ile Ile Leu Arg Met Lys Arg Thr Asn Leu Phe Leu
          20          25          30

Leu Glu Lys Ile Gln Asn Gly Ala Lys Ile Leu Asp Ile Arg Ser Pro
      35          40          45

Lys Glu Tyr Ser Lys Ser His Tyr Leu Lys Ser Ile Asn Ile Pro Phe
      50          55          60

Asn Asn Leu Phe Ala Lys Lys Asp Lys Leu Gly Asp Phe Glu Ser Pro
      65          70          75          80

Ile Ile Val Tyr Gly Lys Ser Phe Asn Lys Ser Tyr Glu Ala Lys Lys
          85          90          95

Val Leu Lys Ser Met Gly Phe Lys Asn Val Phe Val Ala Gly Thr Leu
      100          105          110

Lys Asp Met Pro Gln Ala Lys Lys Glu Val Gly
      115          120

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<210> 82  
 <211> 100  
 <212> PRT  
 <213> Homo sapiens

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<400> 82
Arg Met Lys Arg Thr Asn Leu Phe Leu Leu Glu Lys Ile Gln Asn Gly
 1           5           10          15

Ala Lys Ile Leu Asp Ile Arg Ser Pro Lys Glu Tyr Ser Lys Ser His
      20          25          30

Tyr Leu Lys Ser Ile Asn Ile Pro Phe Asn Asn Leu Phe Ala Lys Lys
      35          40          45

Asp Lys Leu Gly Asp Phe Glu Ser Pro Ile Ile Val Tyr Gly Lys Ser
      50          55          60

Phe Asn Lys Ser Tyr Glu Ala Lys Lys Val Leu Lys Ser Met Gly Phe
      65          70          75          80

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Lys Asn Val Phe Val Ala Gly Thr Leu Lys Asp Met Pro Gln Ala Lys  
85 90 95

Lys Glu Val Gly  
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<210> 83  
<211> 372  
<212> DNA  
<213> Homo sapiens

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aaaatttttg atattcggtc tcccaaagaa tatagcaagt ctcattattt gaagtcaatt 180  
aacatttcctt ttaataattt atttgctaaa aaggataaat taggtgattt tgagtcccca 240  
ataattgttt atggtaaaaag ttttaataag tcttacgagg ctaaaaaagt tttaaaaagc 300  
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gaagttgggt ga 372

<210> 84  
<211> 303  
<212> DNA  
<213> Homo sapiens

<400> 84  
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gatattcggg ctcccaaaga atatagcaag tctcattatt tgaagtcaat taacattcct 120  
tttaataatt tatttgctaa aaaggataaa ttaggtgatt ttgagtcccc aataattgtt 180  
tatggtaaaa gttttaataa gtcttacgag gctaaaaaag ttttaaaaag catgggattt 240  
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tga 303

<210> 85  
<211> 204  
<212> PRT  
<213> Homo sapiens

<400> 85  
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1 5 10 15  
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20 25 30  
Gln Lys Glu Lys Tyr Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln  
35 40 45  
Leu Glu Asp Leu Val Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp  
50 55 60  
Lys Asn Tyr Val Asn Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu  
65 70 75 80  
Ile Glu Gly Val Asn Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu  
85 90 95  
Thr Gly Ala Leu Lys Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn  
100 105 110



Phe Ser Gly Ile Gly Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe  
           115                                  120                                  125  
 Ser Asn Ile Thr Glu Gly Ile Lys Ala His Ile Gln His Leu Lys Ala  
           130                                  135                                  140  
 Tyr Ala Ser Lys Gln Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe  
           145                                  150                                  155                                  160  
 Tyr Leu Val Lys Arg Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly  
                                   165                                  170                                  175  
 Lys Trp Ala Lys Asp Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu  
                                   180                                  185                                  190  
 Leu Glu Leu Leu Glu Tyr Asn Asn Ala Asn Lys Ser  
                                   195                                  200

<210> 86  
 <211> 183  
 <212> PRT  
 <213> Homo sapiens

<400> 86  
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 Ile Pro Phe Leu Ile Ser Arg Gly Lys Thr Gln Leu Glu Asp Leu Val  
                                   20                                  25                                  30  
 Lys Tyr Thr Leu Glu Ile Asn Pro Glu Leu Asp Lys Asn Tyr Val Asn  
                                   35                                  40                                  45  
 Thr Val Ala Lys Thr Tyr Ile Asp Glu Ser Leu Ile Glu Gly Val Asn  
                                   50                                  55                                  60  
 Tyr Asp Ile Ala Tyr Ala Gln Met Leu Leu Glu Thr Gly Ala Leu Lys  
                                   65                                  70                                  75                                  80  
 Phe Asn Gly Ile Val Ser Lys Glu Gln His Asn Phe Ser Gly Ile Gly  
                                   85                                  90                                  95  
 Ala Thr Asn Asn Leu Thr Lys Gly Asn Ser Phe Ser Asn Ile Thr Glu  
                                   100                                  105                                  110  
 Gly Ile Lys Ala His Ile Gln His Leu Lys Ala Tyr Ala Ser Lys Gln  
                                   115                                  120                                  125  
 Asn Ile Lys Ser Asn Met Val Asp Pro Arg Phe Tyr Leu Val Lys Arg  
                                   130                                  135                                  140  
 Gly Ser Ala Pro Thr Ile Tyr Asp Leu Thr Gly Lys Trp Ala Lys Asp  
                                   145                                  150                                  155                                  160  
 Lys Leu Tyr Asp Lys Lys Leu Lys Lys Ile Leu Leu Glu Leu Leu Glu  
                                   165                                  170                                  175  
 Tyr Asn Asn Ala Asn Lys Ser  
                                   180

<210> 87  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<400> 87  
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 ttaataagta gaggaacaaac tcaactagaa gaccttgtaa aatatactct agaaataaat 180  
 ccagagcttg acaaaaacta tgtaaatact gttgctaaaa cctatataga cgaatctttg 240  
 attgaagggg ttaattatga cattgcctat gctcaaagt tactagaaac aggagctcta 300  
 aaattcaatg gaatagtttc aaaagaacaa cacaattttt caggaatagg cgctactaat 360  
 aatcttacaa aaggaaattc tttttccaat attacagaag gaattaaagc tcatattcaa 420  
 catttaaaag cttatgcttc aaaacaaaat atcaaataca atatgggtga tcctagattt 480  
 taccttggtt aaagaggatc tgctccaaca atatatgatt tgactgggaa atggggcaaaa 540  
 gacaaacttt acgacaaaaa acttaaaaaa atattattag aactattaga atataataat 600  
 gcaataaaaa gctaa 615

<210> 88  
 <211> 552  
 <212> DNA  
 <213> Homo sapiens

<400> 88  
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 gagcttgaca aaaactatgt aaatactggt gctaaaacct atatagacga atctttgatt 180  
 gaaggggtta attatgacat tgcctatgct caaatgttac tagaaacagg agctctaaaa 240  
 ttcaatggaa tagtttcaaa agaacaacac aatttttcag gaataggcgc tactaataat 300  
 cttacaaaag gaaattcttt ttccaatatt acagaaggaa ttaaagctca tattcaacat 360  
 ttaaaagctt atgcttcaaa acaaaatata aaatcaaata tggttgatcc tagattttac 420  
 cttgttaaaa gaggatctgc tccaacaata tatgatttga ctgggaaatg ggcaaaagac 480  
 aaactttacg acaaaaaact taaaaaaata ttattagaac tattagaata taataatgca 540  
 aataaaagct aa 552

<210> 89  
 <211> 482  
 <212> PRT  
 <213> Homo sapiens

<400> 89  
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 Ile Pro Ala Gly Lys Phe Asp Lys Glu Phe Lys Gln Met Gly Asp Gly  
 35 40 45  
 Ser Lys Arg Glu Ile Ile Val Ala Gly Thr Tyr Gln Tyr Val Asp Arg  
 50 55 60  
 Gly Ser Arg Gly Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met  
 65 70 75 80  
 Ser Lys Gly Met Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile  
 85 90 95  
 Val Gly Gly Ala Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val

100					105					110					
Gly	Ile	Tyr	Phe	Leu	Ile	Lys	Lys	Leu	Gly	His	Lys	Asp	Lys	Leu	Leu
		115					120					125			
Ile	Pro	Leu	Leu	Met	Phe	Ile	Phe	Ser	Ile	Gly	Gly	Thr	Val	Thr	Gly
	130					135					140				
Met	Ser	Glu	Glu	Thr	Leu	Pro	Phe	Tyr	Phe	Val	Met	Ile	Pro	Leu	Ile
145					150					155					160
Val	Ala	Leu	Gly	Tyr	Asp	Ser	Leu	Val	Gly	Ala	Ala	Ile	Ile	Ala	Leu
				165					170					175	
Gly	Ala	Gly	Val	Gly	Thr	Met	Ala	Ser	Thr	Val	Asn	Pro	Phe	Ala	Thr
			180					185					190		
Gly	Ile	Ala	Ser	Ala	Ile	Ala	Ser	Ile	Ser	Leu	Gln	Asp	Gly	Phe	Tyr
		195					200					205			
Phe	Arg	Ile	Val	Leu	Tyr	Phe	Val	Ser	Val	Leu	Ala	Ala	Ile	Thr	Tyr
	210					215					220				
Val	Cys	Val	Tyr	Ala	Ser	Lys	Ile	Lys	Lys	Asp	Pro	Ser	Lys	Ser	Leu
225					230					235					240
Val	Tyr	Ser	Gln	Lys	Asp	Glu	His	Tyr	Gln	Tyr	Phe	Val	Lys	Lys	Asp
				245					250					255	
Gly	Leu	Ser	Thr	Gly	Asp	Asn	Ala	Gln	Asn	Ala	Leu	Glu	Phe	Thr	Phe
			260					265					270		
Ala	His	Lys	Leu	Val	Leu	Leu	Leu	Phe	Gly	Phe	Met	Ile	Leu	Ile	Leu
		275					280					285			
Ile	Phe	Ser	Ile	Val	Asn	Leu	Gly	Trp	Trp	Met	Gln	Glu	Met	Thr	Met
	290					295					300				
Leu	Tyr	Leu	Gly	Val	Ala	Ile	Ile	Ser	Ala	Phe	Ile	Cys	Lys	Leu	Gly
305					310					315					320
Glu	Thr	Glu	Met	Trp	Asp	Ala	Phe	Val	Lys	Gly	Ser	Glu	Ser	Leu	Leu
				325					330					335	
Thr	Ala	Ala	Leu	Val	Ile	Gly	Leu	Ala	Arg	Gly	Val	Met	Ile	Val	Cys
			340					345					350		
Asp	Asp	Gly	Leu	Ile	Thr	Asp	Thr	Met	Leu	Asn	Ala	Ala	Thr	Asn	Phe
		355					360					365			
Leu	Tyr	Asn	Leu	Pro	Arg	Pro	Leu	Phe	Ile	Ile	Leu	Asn	Glu	Ile	Ile
	370					375					380				
Gln	Ile	Phe	Ile	Gly	Phe	Val	Val	Pro	Ser	Ser	Ser	Gly	His	Ala	Ser
385					390					395					400
Leu	Thr	Met	Pro	Ile	Met	Ala	Pro	Leu	Ala	Asp	Phe	Leu	Ser	Ile	Pro
				405					410					415	
Arg	Ala	Ser	Val	Val	Ile	Ala	Met	Gln	Thr	Ala	Ser	Gly	Leu	Ile	Asn

420                      425                      430  
 Leu Ile Thr Pro Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser  
           435                      440                      445  
 Arg Leu Ser Tyr Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met  
           450                      455                      460  
 Ile Glu Phe Phe Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu  
 465                      470                      475                      480  
 Ser Phe  
  
 <210> 90  
 <211> 446  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 90  
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           20                      25                      30  
 Phe Leu His Pro Ile Met Thr Ile Leu Thr Ala Met Ser Lys Gly Met  
           35                      40                      45  
 Glu His Ala Val Glu Val Ile Val Phe Val Leu Ile Val Gly Gly Ala  
           50                      55                      60  
 Tyr Gly Ile Ile Met Lys Thr Gly Ala Ile Asp Val Gly Ile Tyr Phe  
           65                      70                      75                      80  
 Leu Ile Lys Lys Leu Gly His Lys Asp Lys Leu Leu Ile Pro Leu Leu  
           85                      90                      95  
 Met Phe Ile Phe Ser Ile Gly Gly Thr Val Thr Gly Met Ser Glu Glu  
           100                      105                      110  
 Thr Leu Pro Phe Tyr Phe Val Met Ile Pro Leu Ile Val Ala Leu Gly  
           115                      120                      125  
 Tyr Asp Ser Leu Val Gly Ala Ala Ile Ile Ala Leu Gly Ala Gly Val  
           130                      135                      140  
 Gly Thr Met Ala Ser Thr Val Asn Pro Phe Ala Thr Gly Ile Ala Ser  
 145                      150                      155                      160  
 Ala Ile Ala Ser Ile Ser Leu Gln Asp Gly Phe Tyr Phe Arg Ile Val  
           165                      170                      175  
 Leu Tyr Phe Val Ser Val Leu Ala Ala Ile Thr Tyr Val Cys Val Tyr  
           180                      185                      190  
 Ala Ser Lys Ile Lys Lys Asp Pro Ser Lys Ser Leu Val Tyr Ser Gln  
           195                      200                      205  
 Lys Asp Glu His Tyr Gln Tyr Phe Val Lys Lys Asp Gly Leu Ser Thr

210                      215                      220  
 Gly Asp Asn Ala Gln Asn Ala Leu Glu Phe Thr Phe Ala His Lys Leu  
 225                      230                      235                      240  
 Val Leu Leu Leu Phe Gly Phe Met Ile Leu Ile Leu Ile Phe Ser Ile  
                     245                      250                      255  
 Val Asn Leu Gly Trp Trp Met Gln Glu Met Thr Met Leu Tyr Leu Gly  
                     260                      265                      270  
 Val Ala Ile Ile Ser Ala Phe Ile Cys Lys Leu Gly Glu Thr Glu Met  
                     275                      280                      285  
 Trp Asp Ala Phe Val Lys Gly Ser Glu Ser Leu Leu Thr Ala Ala Leu  
                     290                      295                      300  
 Val Ile Gly Leu Ala Arg Gly Val Met Ile Val Cys Asp Asp Gly Leu  
 305                      310                      315                      320  
 Ile Thr Asp Thr Met Leu Asn Ala Ala Thr Asn Phe Leu Tyr Asn Leu  
                     325                      330                      335  
 Pro Arg Pro Leu Phe Ile Ile Leu Asn Glu Ile Ile Gln Ile Phe Ile  
                     340                      345                      350  
 Gly Phe Val Val Pro Ser Ser Ser Gly His Ala Ser Leu Thr Met Pro  
                     355                      360                      365  
 Ile Met Ala Pro Leu Ala Asp Phe Leu Ser Ile Pro Arg Ala Ser Val  
                     370                      375                      380  
 Val Ile Ala Met Gln Thr Ala Ser Gly Leu Ile Asn Leu Ile Thr Pro  
 385                      390                      395                      400  
 Thr Ser Gly Val Ile Met Ala Val Leu Gly Ile Ser Arg Leu Ser Tyr  
                     405                      410                      415  
 Gly Thr Trp Phe Lys Phe Val Leu Pro Leu Phe Met Ile Glu Phe Phe  
                     420                      425                      430  
 Ile Ser Ile Leu Val Ile Ile Ala Asn Ile Tyr Leu Ser Phe  
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<210> 91

<211> 1449

<212> DNA

<213> Homo sapiens

<400> 91

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 gaatttaagc aaatgggtga tggatctaaa agggaaataa ttgttgctgg aacttatcaa 180  
 tatgtagatc gaggctctag gggattttta catcctatta tgactatttt aaccgcaatg 240  
 tcaaagggga tggaacatgc agttgaagtt attgtttttg ttttaattgt tgggggtgct 300  
 tatgggatta ttatgaaaac tggagcaata gatgtgggaa tttatttttt aatcaagaag 360  
 ttggggcaca aagataagtt gcttattcct ttgttaattg ttattttttc aattggtgga 420  
 actgtaaccg gaatgagtga agagaccctt cctttttatt ttgttatgat tcccttgata 480  
 gtagcttttg gttatgatag tcttggttga gcggctatta ttgctttagg agctggagtg 540  
 ggaactatgg cttctactgt aaatccattt gcgacaggaa ttgcatctgc aatagcttct 600

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attagcttgc aggatggatt ttattttaga attgttcctt attttgtatc agtattggct 660
gctataacct atgtttgtgt ttatgcgtct aaaattaaaa aggatccctc aaaatcgctt 720
gtgtattctc aaaaagatga acattatcaa tattttgtta aaaaagatgg actttctacc 780
ggagataatg ctccagaatgc tcttgagttt acttttgctc ataaattagt tttactttta 840
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gaaatgacaa tgttgatatc tggagttgct attatatcgg cttttatttg taaattaggt 960
gaaactgaaa tgtgggatgc gtttgtgaaa gggtctgaaa gtctgctaac cgctgctctt 1020
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aatgaaatta ttcaaatatt tataggattt gttgttccat cttcatcagg acatgctagt 1200
ctcactatgc caataatggc tctcttgcc gttttttgt caattccaag agcttcagtt 1260
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ataatggctg tattggggat atccagattg agttatggta cgtgggttaa gtttgtttta 1380
ccattattta tgattgagtt ttttatctct attttagtta ttatagctaa catttattta 1440
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<210> 92

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 92

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ttaaccgcaa tgtcaaaggg gatggaacat gcagttgaag ttattgtttt tgttttaatt 180
gttgggggtg cttatgggat tattatgaaa actggagcaa tagatgtggg aatttatttt 240
ttaatcaaga agttggggca caaagataag ttgcttattc ctttgtaaat gtttattttt 300
tcaattgggtg gaactgtaac cggaatgagt gaagagacct ttccttttta tttgttatg 360
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ggagctggag tgggaactat ggcttctact gtaaattccat ttgcgacagg aattgcatct 480
gcaatagctt ctattagctt gcaggatgga ttttatttta gaattgttct ttattttgta 540
tcagtattgg ctgctataac ctatgtttgt gtttatgcgt ctaaaattaa aaaggatccc 600
tcaaaatcgc ttgtgtatto tcaaaaagat gaacattatc aatattttgt taaaaaagat 660
ggactttcta cggagataa tgctcagaat gctcttgagt ttacttttgc tcataaatta 720
gttttacttt tatttggtt tatgatattg attttgatat tttagcattgt taatcttggg 780
tgggtggatgc aagaaatgac aatgttggtt cttggagttg ctattatata ggcttttatt 840
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accgctgctc ttgttatttg acttgctaga ggtgttatga tagtatgtga tgatgggttg 960
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accagcggag ttataatggc tgtattgggg atatccagat tgagttatgg tacgtgggtt 1260
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<210> 93

<211> 469

<212> PRT

<213> Homo sapiens

<400> 93

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Met Lys Tyr Phe Tyr Phe Leu Phe Phe Leu Leu Ile Phe Asn Val Tyr
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Ala Gln Asn Val Asn Ser Pro Ala Leu Pro Ser Pro Pro Leu Leu Pro
      20                      25                      30

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Glu Ile Thr Glu Asn Lys Pro Val Glu Arg Glu Asn Ser Ser Lys Gly
      35                      40                      45

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Glu Asn Phe Ser Asn Val Gly Leu Asp Gly Lys Tyr Val Asn Asp Thr  
 50 55 60  
 Ile Leu Tyr Gly Leu Asp Ser Gln Val Thr Ser Ile Ile Lys Ala Leu  
 65 70 75 80  
 Lys Lys Ser Ser Asp Ser Gln Tyr Asn Phe Ser Leu Lys Lys Arg Leu  
 85 90 95  
 Glu Lys Thr Phe Asn Ala Glu Leu Lys Arg Glu Ile Leu Glu Leu Phe  
 100 105 110  
 Ile Ser Leu Lys Tyr Ser Gly Gly Ile Asp Thr Ala Asn Tyr Ile Leu  
 115 120 125  
 Glu Asn Tyr Glu Ser Lys Arg Tyr Ser Asn Ala Leu Phe Gly Leu Ala  
 130 135 140  
 Ile Ser Tyr Leu Lys Glu Phe Asp Asp Lys Glu Lys Leu Lys Lys Thr  
 145 150 155 160  
 Leu Ile Asp Ile Leu Glu Asn Lys Glu Gly Asn Val Val Ser Ile Ala  
 165 170 175  
 Ala Tyr Tyr Leu Gly Glu Leu Asn Ser Leu Glu Tyr Ser Lys Asn Met  
 180 185 190  
 Met Glu Val Phe Glu Lys Tyr Ser Gly Asn Asp Gly Ala Arg Arg Glu  
 195 200 205  
 Ile Leu Ile Ala Leu Gly Lys Met Ser Ala Val Asp Tyr Gln Asp Arg  
 210 215 220  
 Ile Tyr Glu Ile Ser Leu Asp Asn Tyr Glu Gly Pro Ser Ile Lys Ala  
 225 230 235 240  
 Ala Ala Ile Glu Ala Leu Ser Tyr Leu Ala Ser Asp Lys Val Thr Glu  
 245 250 255  
 Asn Ala Asp Leu Tyr Leu Gln Ser Asn Asn Asn Asn Leu Asn Val Lys  
 260 265 270  
 Leu Ala Ile Ile Ala Ser Leu Ser Lys Asp Pro Ser Leu Lys Ser Lys  
 275 280 285  
 Glu Ile Leu Gln Gly Phe Leu Arg Asp Ser Asp Asp Asn Ile Arg Phe  
 290 295 300  
 Lys Ala Ile Asn Ala Ile Lys Gly His Arg Asp Ser Ser Ala Lys Asp  
 305 310 315 320  
 Ile Leu Ile Tyr Lys Leu Lys Ser Asp Pro Ser Leu Lys Val Arg Glu  
 325 330 335  
 Ala Ser Ala Lys Ala Leu Ile Asp Met Asp Leu Gly Asn Ile Glu Ile  
 340 345 350  
 Lys Asn Ile Met Phe Asp Phe Lys Ile Asp Asn Asn Phe Lys Ile Ser  
 355 360 365

Met Phe Ser Tyr Leu Leu Asp Lys Asp Ser Leu Lys Ala Leu Ser Ile  
 370 375 380

Ala Leu Glu Ile Val Asn Lys Glu Asn Ile Asn Arg Pro Ser Asn Val  
 385 390 395 400

Leu Arg Gly Val Ala Ser Met Leu Ala Gly Lys Lys Gly Asn Phe Asp  
 405 410 415

Asn Phe Tyr Ser Lys Ile Ile Asp Ser Lys Asn Ile Asp Leu Arg His  
 420 425 430

Leu Ala Leu Lys Gly Ala Val Tyr Asn Lys Ser Ser Ser Leu Ser Asp  
 435 440 445

Lys Leu Lys Lys Ile Lys Ser Glu Thr Asn Ser Glu Tyr Ile Lys Met  
 450 455 460

Leu Leu Lys Asp Tyr  
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<210> 94  
 <211> 445  
 <212> PRT  
 <213> Homo sapiens

<400> 94  
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Asp Gly Lys Tyr Val Asn Asp Thr Ile Leu Tyr Gly Leu Asp Ser Gln  
 35 40 45

Val Thr Ser Ile Ile Lys Ala Leu Lys Lys Ser Ser Asp Ser Gln Tyr  
 50 55 60

Asn Phe Ser Leu Lys Lys Arg Leu Glu Lys Thr Phe Asn Ala Glu Leu  
 65 70 75 80

Lys Arg Glu Ile Leu Glu Leu Phe Ile Ser Leu Lys Tyr Ser Gly Gly  
 85 90 95

Ile Asp Thr Ala Asn Tyr Ile Leu Glu Asn Tyr Glu Ser Lys Arg Tyr  
 100 105 110

Ser Asn Ala Leu Phe Gly Leu Ala Ile Ser Tyr Leu Lys Glu Phe Asp  
 115 120 125

Asp Lys Glu Lys Leu Lys Lys Thr Leu Ile Asp Ile Leu Glu Asn Lys  
 130 135 140

Glu Gly Asn Val Val Ser Ile Ala Ala Tyr Tyr Leu Gly Glu Leu Asn  
 145 150 155 160

Ser Leu Glu Tyr Ser Lys Asn Met Met Glu Val Phe Glu Lys Tyr Ser  
 165 170 175



Gly Asn Asp Gly Ala Arg Arg Glu Ile Leu Ile Ala Leu Gly Lys Met  
180 185 190

Ser Ala Val Asp Tyr Gln Asp Arg Ile Tyr Glu Ile Ser Leu Asp Asn  
195 200 205

Tyr Glu Gly Pro Ser Ile Lys Ala Ala Ala Ile Glu Ala Leu Ser Tyr  
210 215 220

Leu Ala Ser Asp Lys Val Thr Glu Asn Ala Asp Leu Tyr Leu Gln Ser  
225 230 235 240

Asn Asn Asn Asn Leu Asn Val Lys Leu Ala Ile Ile Ala Ser Leu Ser  
245 250 255

Lys Asp Pro Ser Leu Lys Ser Lys Glu Ile Leu Gln Gly Phe Leu Arg  
260 265 270

Asp Ser Asp Asp Asn Ile Arg Phe Lys Ala Ile Asn Ala Ile Lys Gly  
275 280 285

His Arg Asp Ser Ser Ala Lys Asp Ile Leu Ile Tyr Lys Leu Lys Ser  
290 295 300

Asp Pro Ser Leu Lys Val Arg Glu Ala Ser Ala Lys Ala Leu Ile Asp  
305 310 315 320

Met Asp Leu Gly Asn Ile Glu Ile Lys Asn Ile Met Phe Asp Phe Lys  
325 330 335

Ile Asp Asn Asn Phe Lys Ile Ser Met Phe Ser Tyr Leu Leu Asp Lys  
340 345 350

Asp Ser Leu Lys Ala Leu Ser Ile Ala Leu Glu Ile Val Asn Lys Glu  
355 360 365

Asn Ile Asn Arg Pro Ser Asn Val Leu Arg Gly Val Ala Ser Met Leu  
370 375 380

Ala Gly Lys Lys Gly Asn Phe Asp Asn Phe Tyr Ser Lys Ile Ile Asp  
385 390 395 400

Ser Lys Asn Ile Asp Leu Arg His Leu Ala Leu Lys Gly Ala Val Tyr  
405 410 415

Asn Lys Ser Ser Ser Leu Ser Asp Lys Leu Lys Lys Ile Lys Ser Glu  
420 425 430

Thr Asn Ser Glu Tyr Ile Lys Met Leu Leu Lys Asp Tyr  
435 440 445

<210> 95

<211> 1410

<212> DNA

<213> Homo sapiens

<400> 95

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<210> 96

<211> 1338

<212> DNA

<213> Homo sapiens

<400> 96

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<210> 97

<211> 506

<212> PRT

<213> Homo sapiens

<400> 97

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Phe Leu Phe Phe Ser Cys Leu Thr Thr Asp Arg Ser Ile Gln Asp Ser	20	25	30
His Ile Ser Asp Ile Val Glu Lys Lys Lys Glu Ala Val Ile Ile Asp	35	40	45
Asp Asn Asn Val Val Leu Gly Ser Asn Glu Gly Lys Phe Lys Arg Asp	50	55	60
Tyr Leu Ile Gly Leu Lys Asp Asn Glu Ser Phe Phe Leu Ser Asp Ala	65	70	75
Phe Leu Lys Glu Asn Asn Phe Tyr Phe Lys Lys Ala Arg Glu Ser Tyr	85	90	95
Ala Lys Lys Asn Ile Gly Leu Thr Asn Tyr Tyr Leu Asn Lys Ile Val	100	105	110
Thr Asn Glu Asn Gln His Ser Arg Glu Leu Leu Ala Lys Ala Asn Leu	115	120	125
Phe Phe Gly Tyr Val Asn Tyr Glu Asn Gly Phe Tyr Asp Leu Ser Glu	130	135	140
Tyr Asn Phe Asp Leu Phe Leu Lys Asp Tyr Lys Tyr Ser His Ala Ser	145	150	155
Leu Arg Leu Ala Glu Leu Lys Tyr Leu Val Lys Glu Lys Ser Asp Ala	165	170	175
Ile Ser Ala Phe Lys Glu Ile Asn Glu Phe Ser Ile Ser Gly Tyr Asp	180	185	190
Arg Glu Ile Tyr Gly Phe Leu Ser Asn Lys Leu Gly Val Ser His Leu	195	200	205
Asn Leu Glu Ser Leu Gly Phe Leu Asp Asn Ser Val Phe Asp Thr Phe	210	215	220
Val Phe Asn Asp Asn Ile Phe Val Thr Asn Ile Leu Gly Gly Leu Leu	225	230	235
Arg Tyr Asn Ile Lys Lys Asn Asp Cys Arg Val Tyr Leu Lys Asp Lys	245	250	255
Lys Ser Ile Phe Leu Asn Gly Ile Arg Gly Phe Ala Asp Tyr Asn Gly	260	265	270
Thr Ile Tyr Ile Gly Gly Lys Asn Val Val Tyr Tyr Ile Asp Asp Val	275	280	285
Asp Gly Asp Leu Lys Gln Ile Asn Val Pro Gly Asn Ala Asp Phe Ser	290	295	300
Asn Val Gln Val Leu Leu Ala Val Lys Asn Gly Ile Phe Val Gly Thr	305	310	315
Leu Asn Ser Gly Leu Trp Phe Tyr Asp Leu Lys Asn Trp Lys Asn Ile			

325	330	335
Pro Leu Gly Ser Asn Lys Ile Ser Ser Leu Cys Phe Asp Ser Leu Lys		
340	345	350
Asn Leu Leu Leu Val Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn		
355	360	365
Val Asp Asn Leu Lys Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn		
370	375	380
Asp Asn Glu Lys Asn Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr		
385	390	400
Phe Val Gly Thr Tyr Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys		
405	410	415
Asn Ser Tyr Lys Lys His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr		
420	425	430
Phe Met Asp Met Glu Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe		
435	440	445
Asp His Gly Leu Leu Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr		
450	455	460
Phe Gly Pro Asn Asn Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser		
465	470	475
Arg Phe Glu Asn Tyr Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val		
485	490	495
Phe Val Asp Glu Asn Ile Lys Lys Gln Leu		
500	505	

<210> 98  
 <211> 485  
 <212> PRT  
 <213> Homo sapiens

<400> 98
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20 25 30
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35 40 45
Lys Asp Asn Glu Ser Phe Phe Leu Ser Asp Ala Phe Leu Lys Glu Asn
50 55 60
Asn Phe Tyr Phe Lys Lys Ala Arg Glu Ser Tyr Ala Lys Lys Asn Ile
65 70 75 80
Gly Leu Thr Asn Tyr Tyr Leu Asn Lys Ile Val Thr Asn Glu Asn Gln
85 90 95
His Ser Arg Glu Leu Leu Ala Lys Ala Asn Leu Phe Phe Gly Tyr Val

100	105	110
Asn Tyr Glu Asn Gly Phe Tyr Asp Leu Ser Glu Tyr Asn Phe Asp Leu 115 120 125		
Phe Leu Lys Asp Tyr Lys Tyr Ser His Ala Ser Leu Arg Leu Ala Glu 130 135 140		
Leu Lys Tyr Leu Val Lys Glu Lys Ser Asp Ala Ile Ser Ala Phe Lys 145 150 155 160		
Glu Ile Asn Glu Phe Ser Ile Ser Gly Tyr Asp Arg Glu Ile Tyr Gly 165 170 175		
Phe Leu Ser Asn Lys Leu Gly Val Ser His Leu Asn Leu Glu Ser Leu 180 185 190		
Gly Phe Leu Asp Asn Ser Val Phe Asp Thr Phe Val Phe Asn Asp Asn 195 200 205		
Ile Phe Val Thr Asn Ile Leu Gly Gly Leu Leu Arg Tyr Asn Ile Lys 210 215 220		
Lys Asn Asp Cys Arg Val Tyr Leu Lys Asp Lys Lys Ser Ile Phe Leu 225 230 235 240		
Asn Gly Ile Arg Gly Phe Ala Asp Tyr Asn Gly Thr Ile Tyr Ile Gly 245 250 255		
Gly Lys Asn Val Val Tyr Tyr Ile Asp Asp Val Asp Gly Asp Leu Lys 260 265 270		
Gln Ile Asn Val Pro Gly Asn Ala Asp Phe Ser Asn Val Gln Val Leu 275 280 285		
Leu Ala Val Lys Asn Gly Ile Phe Val Gly Thr Leu Asn Ser Gly Leu 290 295 300		
Trp Phe Tyr Asp Leu Lys Asn Trp Lys Asn Ile Pro Leu Gly Ser Asn 305 310 315 320		
Lys Ile Ser Ser Leu Cys Phe Asp Ser Leu Lys Asn Leu Leu Val 325 330 335		
Gly Thr Val Asp Lys Ala Ile Tyr Ser Val Asn Val Asp Asn Leu Lys 340 345 350		
Lys Ile Glu His Leu Asp Phe Phe Ser Lys Asn Asp Asn Glu Lys Asn 355 360 365		
Ile Asn Phe Ile Lys Glu Tyr Lys Asp Ser Tyr Phe Val Gly Thr Tyr 370 375 380		
Gly Gly Gly Leu Phe Glu Leu Asn Leu Asn Lys Asn Ser Tyr Lys Lys 385 390 395 400		
His Val Ile Ala Asn Asn Ile Asp Val Asn Tyr Phe Met Asp Met Glu 405 410 415		
Ile Lys Asp Lys Lys Leu Leu Phe Ala Thr Phe Asp His Gly Leu Leu		

420

425

430

Ile Tyr Asp Ser Glu Asn Asp Asn Trp Asp Tyr Phe Gly Pro Asn Asn  
 435 440 445

Gly Leu Leu Asn Leu Asn Leu Ile Lys Val Ser Arg Phe Glu Asn Tyr  
 450 455 460

Val Ile Leu Gly Thr Ile Asn Asn Gly Leu Val Phe Val Asp Glu Asn  
 465 470 475 480

Ile Lys Lys Gln Leu  
 485

&lt;210&gt; 99

&lt;211&gt; 1521

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 99

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1521

&lt;210&gt; 100

&lt;211&gt; 1458

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 100

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ctttccgaat ataattttga tctattttta aaagactata aatattctca tgctagttaa 420

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<210> 101

<211> 207

<212> PRT

<213> Homo sapiens

<400> 101

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 20 25 30  
 Ala Glu Gln Trp Tyr Val Ile Phe Asn Ser Gln Met Lys Lys Lys Pro  
 35 40 45  
 Glu Asn Tyr Lys Lys Asn Ile Phe Phe Leu Gln Lys Ala Leu Lys Tyr  
 50 55 60  
 Pro Phe Gly Asn Pro Lys Tyr Ser Leu Thr Lys Ile Glu Thr Lys Glu  
 65 70 75 80  
 Gln Trp Glu Lys Tyr Lys Leu Leu Phe Lys Met His Val Asn Leu Leu  
 85 90 95  
 Leu Val Arg Gln Asn Leu His Leu Gly Asp Leu Phe Asp Thr Arg Asn  
 100 105 110  
 Leu Tyr Phe Phe Lys Thr Pro Glu Lys Asp Gly Ile Ile Ser Asn Leu  
 115 120 125  
 Glu Lys Ser Lys Lys Leu Tyr Lys Leu Ala Ile Asn Tyr Tyr Ser Glu  
 130 135 140  
 Ala Leu Lys Tyr His Lys Lys Leu Glu Asn Tyr Thr Thr Val Lys Leu  
 145 150 155 160  
 Glu Asn Asp Gly Ile Thr Asn Trp Glu Asp Glu Tyr His Lys Ile Ser  
 165 170 175  
 Leu Lys Glu Leu Asn Tyr Tyr Asp Ile Ile Lys Lys Glu Leu Leu Arg  
 180 185 190

Ile Asp Glu Thr Lys Ala Phe Phe Glu Gln Gly Pro Asn Tyr Tyr  
 195 200 205

<210> 102  
 <211> 185  
 <212> PRT  
 <213> Homo sapiens

<400> 102  
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Ile Phe Asn Ser Gln Met Lys Lys Lys Pro Glu Asn Tyr Lys Lys Asn  
 20 25 30

Ile Phe Phe Leu Gln Lys Ala Leu Lys Tyr Pro Phe Gly Asn Pro Lys  
 35 40 45

Tyr Ser Leu Thr Lys Ile Glu Thr Lys Glu Gln Trp Glu Lys Tyr Lys  
 50 55 60

Leu Leu Phe Lys Met His Val Asn Leu Leu Leu Val Arg Gln Asn Leu  
 65 70 75 80

His Leu Gly Asp Leu Phe Asp Thr Arg Asn Leu Tyr Phe Phe Lys Thr  
 85 90 95

Pro Glu Lys Asp Gly Ile Ile Ser Asn Leu Glu Lys Ser Lys Lys Leu  
 100 105 110

Tyr Lys Leu Ala Ile Asn Tyr Tyr Ser Glu Ala Leu Lys Tyr His Lys  
 115 120 125

Lys Leu Glu Asn Tyr Thr Thr Val Lys Leu Glu Asn Asp Gly Ile Thr  
 130 135 140

Asn Trp Glu Asp Glu Tyr His Lys Ile Ser Leu Lys Glu Leu Asn Tyr  
 145 150 155 160

Tyr Asp Ile Ile Lys Lys Glu Leu Leu Arg Ile Asp Glu Thr Lys Ala  
 165 170 175

Phe Phe Glu Gln Gly Pro Asn Tyr Tyr  
 180 185

<210> 103  
 <211> 624  
 <212> DNA  
 <213> Homo sapiens

<400> 103  
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 aattctcaaa tgaaaaaaaa acctgaaaac tataaaaaaa atatattttt tcttcaaaaa 180  
 gccttaaaat acccatttgg aaatccaaaa tattctctaa ctaaaataga aaccaaagaa 240  
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aattactatg acattatttaa aaaagaacta ctaagaattg acgaaactaa agcatttttt 600  
gaacaagggc caaactatta ttaa 624

<210> 104  
<211> 558  
<212> DNA  
<213> Homo sapiens

<400> 104  
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aaataccat ttggaaatcc aaaatattct ctaactaaaa tagaaaccaa agaacagtgg 180  
gaaaaatata aacttctttt caaaatgcat gtaaacttgc ttctagttag gcaaaattta 240  
catttaggag atttattcga cacaagaaat ttatatTTTT tcaaaaactcc agaaaaagat 300  
ggaattattt ccaatctaga aaaatcaaaa aaattatata aactagctat taattactac 360  
agcgaagcac taaaatacca caaaaaactt gaaaattaca caactgtaa actagaaaaac 420  
gatggaataa caaactggga agatgaatat cataaaattt ctcttaaaga gcttaattac 480  
tatgacatta ttaaaaaaga actactaaga attgacgaaa ctaaagcatt ttttgaacaa 540  
gggccaaact attattaa 558

<210> 105  
<211> 538  
<212> PRT  
<213> Homo sapiens

<400> 105  
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20 25 30  
Ser Thr Ser Glu Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser  
35 40 45  
Leu Ile Lys Asn Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser  
50 55 60  
Ile Gln Glu Ile Leu Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys  
65 70 75 80  
Thr Ala Ala Lys Ile Lys Ile Ser Pro Gln Lys Leu Glu Glu Ile Lys  
85 90 95  
Asn Tyr Leu Asn Ala Tyr Lys Asn Tyr Leu Asn Asn Glu Thr Glu Trp  
100 105 110  
Ile Lys Phe Ile Asp Gln Ser Ser Val Asn Gly Asn Leu Thr Ile Lys  
115 120 125  
Ile Asp Thr Ala Phe Glu Lys Lys Thr Asn Phe Asn His Thr Asn Ser  
130 135 140  
Asp Asn Glu Asn Leu Thr Glu Leu Ile Glu Leu Gln Met His Leu Glu  
145 150 155 160  
Lys Glu Ile Leu Asn Leu Ile Glu Gln Thr Phe His Asp Lys Asn Leu  
165 170 175

Gly Tyr Ile Gln Leu Ser His Ile Asn Ser Phe Phe Pro Gln Glu Asn  
 180 185 190  
 Ile Asn Ser Ile Thr Lys Glu Ile Ile Asp Gly Lys Glu Tyr Ile Ala  
 195 200 205  
 Pro His Ile Ile Ala Asn Gln Leu Leu Lys Ile Lys Asp Lys Lys Tyr  
 210 215 220  
 Phe Glu Gln Phe Met His Phe Leu Lys Val Glu Asn Ser Lys Ile Lys  
 225 230 235 240  
 Thr Ile Ile Glu Lys Gln Lys Ile Ser Asp Leu His Asn Glu Leu Tyr  
 245 250 255  
 Tyr Ser Lys Gln Ser Pro Pro Arg Arg Arg Lys Arg Ser Thr Ala Asp  
 260 265 270  
 Ser Asp Asn Asn Asn Lys Tyr Asp Ile Ile Pro Lys Ile Ile Asp Pro  
 275 280 285  
 Asn Thr Gly Ile Glu Ile Thr Pro Lys Asn Leu Arg Ser Ile Leu Ser  
 290 295 300  
 Asn Gly Asp Ile Ile Leu Ile Lys Pro Lys Ile Asp Trp Thr Glu Phe  
 305 310 315 320  
 Phe Tyr Phe Trp Gln His Val Gly Ile Phe Asp Glu Glu Lys Tyr Glu  
 325 330 335  
 Ala Thr Lys Lys Ile Ala Phe Asn Gly Ile Asp Ser Phe Asp Ile Lys  
 340 345 350  
 Ser Ile Ile Thr Ser Asn Gln Ile Lys Phe Asp Thr Ala Ser Thr Gln  
 355 360 365  
 Gly Ser Gly Tyr Glu Lys Leu Ser Thr Tyr Val Gln Ser Arg Ile Leu  
 370 375 380  
 Lys Ile Phe Ser Pro Ile Thr Asp Ile Arg Thr Ile Gln Lys Ala Ile  
 385 390 395 400  
 Asn Phe Gly Arg Ser Arg Tyr Ile Asp Asn Asn Phe Gly Tyr Met Val  
 405 410 415  
 Pro Leu Ile Ser Ser Asn Leu Trp Thr Asp Ser Phe Asn Leu Glu Glu  
 420 425 430  
 Ile His Asn Lys Thr Tyr Cys Ser Leu Met Val Asp Arg Ile Tyr Lys  
 435 440 445  
 Ile Ala Gly Leu Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile  
 450 455 460  
 Thr Pro Gly Glu Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr  
 465 470 475 480  
 Thr Ile Ala Gly Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys  
 485 490 495

Pro Thr Leu Lys Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp  
500 505 510

Ala Ile Glu Leu Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys  
515 520 525

Asn Ile Thr Asn Leu Trp Cys Ser Gly Ser  
530 535

<210> 106

<211> 518

<212> PRT

<213> Homo sapiens

<400> 106

Cys Ala Leu Ile Ala Asp Asn Lys Ser Lys Asn Leu Ser Thr Ser Glu  
1 5 10 15

Ile Ile Leu Thr Gln Lys Thr Leu Leu Glu Ser Ser Leu Ile Lys Asn  
20 25 30

Pro Ser Asn Val Glu Tyr Arg Ile Pro Ile Ser Ser Ile Gln Glu Ile  
35 40 45

Leu Asn Asn Asn Asn Asp Ser Phe Leu Ile Lys Lys Thr Ala Ala Lys  
50 55 60

Ile Lys Ile Ser Pro Gln Lys Leu Glu Glu Ile Lys Asn Tyr Leu Asn  
65 70 75 80

Ala Tyr Lys Asn Tyr Leu Asn Asn Glu Thr Glu Trp Ile Lys Phe Ile  
85 90 95

Asp Gln Ser Ser Val Asn Gly Asn Leu Thr Ile Lys Ile Asp Thr Ala  
100 105 110

Phe Glu Lys Lys Thr Asn Phe Asn His Thr Asn Ser Asp Asn Glu Asn  
115 120 125

Leu Thr Glu Leu Ile Glu Leu Gln Met His Leu Glu Lys Glu Ile Leu  
130 135 140

Asn Leu Ile Glu Gln Thr Phe His Asp Lys Asn Leu Gly Tyr Ile Gln  
145 150 155 160

Leu Ser His Ile Asn Ser Phe Phe Pro Gln Glu Asn Ile Asn Ser Ile  
165 170 175

Thr Lys Glu Ile Ile Asp Gly Lys Glu Tyr Ile Ala Pro His Ile Ile  
180 185 190

Ala Asn Gln Leu Leu Lys Ile Lys Asp Lys Lys Tyr Phe Glu Gln Phe  
195 200 205

Met His Phe Leu Lys Val Glu Asn Ser Lys Ile Lys Thr Ile Ile Glu  
210 215 220

Lys Gln Lys Ile Ser Asp Leu His Asn Glu Leu Tyr Tyr Ser Lys Gln  
225 230 235 240

Ser Pro Pro Arg Arg Arg Lys Arg Ser Thr Ala Asp Ser Asp Asn Asn  
 245 250 255  
 Asn Lys Tyr Asp Ile Ile Pro Lys Ile Ile Asp Pro Asn Thr Gly Ile  
 260 265 270  
 Glu Ile Thr Pro Lys Asn Leu Arg Ser Ile Leu Ser Asn Gly Asp Ile  
 275 280 285  
 Ile Leu Ile Lys Pro Lys Ile Asp Trp Thr Glu Phe Phe Tyr Phe Trp  
 290 295 300  
 Gln His Val Gly Ile Phe Asp Glu Glu Lys Tyr Glu Ala Thr Lys Lys  
 305 310 315 320  
 Ile Ala Phe Asn Gly Ile Asp Ser Phe Asp Ile Lys Ser Ile Ile Thr  
 325 330 335  
 Ser Asn Gln Ile Lys Phe Asp Thr Ala Ser Thr Gln Gly Ser Gly Tyr  
 340 345 350  
 Glu Lys Leu Ser Thr Tyr Val Gln Ser Arg Ile Leu Lys Ile Phe Ser  
 355 360 365  
 Pro Ile Thr Asp Ile Arg Thr Ile Gln Lys Ala Ile Asn Phe Gly Arg  
 370 375 380  
 Ser Arg Tyr Ile Asp Asn Asn Phe Gly Tyr Met Val Pro Leu Ile Ser  
 385 390 395 400  
 Ser Asn Leu Trp Thr Asp Ser Phe Asn Leu Glu Glu Ile His Asn Lys  
 405 410 415  
 Thr Tyr Cys Ser Leu Met Val Asp Arg Ile Tyr Lys Ile Ala Gly Leu  
 420 425 430  
 Asn Val Ser Arg Asn Tyr Glu Ile Ser Gly Ile Ile Thr Pro Gly Glu  
 435 440 445  
 Ile Asn Ala Ala Ala Tyr Asn Phe Tyr Met Ser Tyr Thr Ile Ala Gly  
 450 455 460  
 Ile Leu Pro Ser Val Leu Pro Lys Arg Leu Ile Lys Pro Thr Leu Lys  
 465 470 475 480  
 Glu Lys Phe Ile Gly Tyr Asn Lys Glu Ile Val Asp Ala Ile Glu Leu  
 485 490 495  
 Lys Lys Ser Lys Glu Lys Ile Phe Gly Arg Ala Cys Asn Ile Thr Asn  
 500 505 510  
 Leu Trp Cys Ser Gly Ser  
 515

<210> 107

<211> 1617

<212> DNA

<213> Homo sapiens

<400> 107

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caaaaaacac	tactagaaaag	ctctttaata	aaaaatcctt	ctaagttaga	atatacgaata	180
ccaatatcca	gtatccaaga	aattttaaac	aataacaatg	attctttttt	aataaaaaaa	240
acagcagcaa	aaatcaaaat	aagccctcaa	aaacttgaag	aaataaaaaa	ctatctaaat	300
gcttataaaa	attatctaaa	taatgaaaca	gaatggataa	agtttataga	tcaaagtagc	360
gtcaatggaa	atttaacaat	taaaattgat	actgcttttg	aaaaaaaaac	aaattttaat	420
catacaaatt	cagataatga	aaattttaaca	gaactaatag	aactacaaat	gcactctggaa	480
aaagaaattt	taaacttaat	tgagcaaaca	tttcatgata	aaaatttagg	atatatacaa	540
ttaagtcaca	tcaactcatt	ctttcctcaa	gaaaatataa	actcaataac	aaaagaaata	600
atagatggaa	aagaatatat	tgacccgcac	ataatagcaa	atcaattatt	aaaaataaaa	660
gataaaaaat	attttgaaca	atttatgcac	tttttaaaag	ttgaaaacag	caaaataaaa	720
acaataattg	aaaaacaaaa	aatttcagat	cttcacaatg	aactgtatta	ttcaaaacaa	780
tccccgcccc	gaagaagaaa	aagggtcaact	gccgattccg	ataataacaa	taaatacgat	840
ataataccaa	aaataataga	cccaaataca	ggcattgaaa	taactcctaa	aaatttaaga	900
tctattttat	caaattggcga	cataatacta	ataaaaccaa	aaatagattg	gacagaattt	960
ttttattttt	ggcaacatgt	gggaatatatt	gatgaagaaa	aatatgaagc	cactaaaaaa	1020
attgcattca	atggaattga	tagctttgat	ataaaatcaa	taattacaag	caatcaaatc	1080
aaattcgata	cagcatctac	tcaagggttca	ggatacgaaa	agctttcaac	atacgtacaa	1140
tcaagaatat	taaaaatatt	ctcaccaata	acagacataa	gaacaattca	aaaagctatt	1200
aaattttggaa	gaagtagata	cattgacaat	aactttggat	atatgggtcc	attaatatcc	1260
tctaattttat	ggacagattc	attcaatctt	gaagaaattc	acaacaaaac	ctattgctct	1320
ttaatgggtg	atagaatata	taaaatagca	ggacttaatg	tatcaagaaa	ttacgaaatt	1380
tcgggaataa	ttactcctgg	agaaataaat	gcagcagctt	acaattttta	catgtcttat	1440
acgattgcag	gaataacttc	aagcgtgctt	ccaaaaaggc	tcattaaacc	aacattaaaa	1500
gaaaaattca	ttgggttaca	taaagaaata	gtagatgcaa	tagaattaaa	aaaatcgaaa	1560
gaaaaaat	ttgggagagc	ttgcaacatt	acaaatctct	ggtgctcagg	aagttaa	1617

<210> 108

<211> 1557

<212> DNA

<213> Homo sapiens

<400> 108

tgtgccttaa	ttgcagataa	taagtcaaaa	aatttaagca	catcagaaat	catattaaca	60
caaaaaacac	tactagaaaag	ctctttaata	aaaaatcctt	ctaagttaga	atatacgaata	120
ccaatatcca	gtatccaaga	aattttaaac	aataacaatg	attctttttt	aataaaaaaa	180
acagcagcaa	aaatcaaaat	aagccctcaa	aaacttgaag	aaataaaaaa	ctatctaaat	240
gcttataaaa	attatctaaa	taatgaaaca	gaatggataa	agtttataga	tcaaagtagc	300
gtcaatggaa	atttaacaat	taaaattgat	actgcttttg	aaaaaaaaac	aaattttaat	360
catacaaatt	cagataatga	aaattttaaca	gaactaatag	aactacaaat	gcactctggaa	420
aaagaaat	taaacttaat	tgagcaaaca	tttcatgata	aaaatttagg	atatatacaa	480
ttaagtcaca	tcaactcatt	ctttcctcaa	gaaaatataa	actcaataac	aaaagaaata	540
atagatggaa	aagaatatat	tgacccgcac	ataatagcaa	atcaattatt	aaaaataaaa	600
gataaaaaat	attttgaaca	atttatgcac	tttttaaaag	ttgaaaacag	caaaataaaa	660
acaataattg	aaaaacaaaa	aatttcagat	cttcacaatg	aactgtatta	ttcaaaacaa	720
tccccgcccc	gaagaagaaa	aagggtcaact	gccgattccg	ataataacaa	taaatacgat	780
ataataccaa	aaataataga	cccaaataca	ggcattgaaa	taactcctaa	aaatttaaga	840
tctattttat	caaattggcga	cataatacta	ataaaaccaa	aaatagattg	gacagaat	900
ttttattttt	ggcaacatgt	gggaatatatt	gatgaagaaa	aatatgaagc	cactaaaaaa	960
attgcattca	atggaattga	tagctttgat	ataaaatcaa	taattacaag	caatcaaatc	1020
aaattcgata	cagcatctac	tcaagggttca	ggatacgaaa	agctttcaac	atacgtacaa	1080
tcaagaatat	taaaaatatt	ctcaccaata	acagacataa	gaacaattca	aaaagctatt	1140
aaattttggaa	gaagtagata	cattgacaat	aactttggat	atatgggtcc	attaatatcc	1200
tctaattttat	ggacagattc	attcaatctt	gaagaaattc	acaacaaaac	ctattgctct	1260
ttaatgggtg	atagaatata	taaaatagca	ggacttaatg	tatcaagaaa	ttacgaaatt	1320
tcgggaataa	ttactcctgg	agaaataaat	gcagcagctt	acaattttta	catgtcttat	1380
acgattgcag	gaataacttc	aagcgtgctt	ccaaaaaggc	tcattaaacc	aacattaaaa	1440
gaaaaattca	ttgggttaca	taaagaaata	gtagatgcaa	tagaattaaa	aaaatcgaaa	1500
gaaaaaat	ttgggagagc	ttgcaacatt	acaaatctct	ggtgctcagg	aagttaa	1557

<210> 109  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

<400> 109  
 Met Thr Arg Val Phe Ser Lys Phe Phe Leu Phe Phe Cys Phe Ser Met  
           1                  5                  10                  15  
 Leu Leu Phe Ala Asn Ser Glu Asp Ser Asn Glu Lys Asp Ile Val Ser  
                   20                  25                  30  
 Lys Asp Glu Asn Pro Val Phe Glu Asn Glu Val Leu Gly Tyr Trp Val  
                   35                  40                  45  
 Gly Tyr Asn Asp Val Ser Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr  
                   50                  55                  60  
 Lys Tyr Asn Gly Glu Val Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp  
                   65                  70                  75                  80  
 Gly Lys Lys Tyr Asp Ala Lys Asn Pro Ser Gly Asp Thr Val Val Gly  
                           85                  90                  95  
 Phe Glu Asn Leu Ala Ile Glu Gly Leu Asp Phe Met Trp Gly Leu Lys  
                   100                  105                  110  
 Tyr Ser Ser Ser Ser Lys Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro  
                   115                  120                  125  
 Lys Asn Gly Lys Ile Tyr Asn Ser Glu Met Arg Val Asp Ser Lys Thr  
                   130                  135                  140  
 Gly Asn Leu Ile Thr Lys Gly Lys Val Trp Ile Phe Gly Arg Ser Lys  
                   145                  150                  155                  160  
 Ile Trp Thr Arg Ala Lys Asp Asp Glu Ile Pro Lys Leu Asp Leu His  
                   165                  170                  175  
 Asn Leu Val Pro Ala Pro Pro Val Lys Lys  
                   180                  185

<210> 110  
 <211> 164  
 <212> PRT  
 <213> Homo sapiens

<400> 110  
 Glu Asp Ser Asn Glu Lys Asp Ile Val Ser Lys Asp Glu Asn Pro Val  
           1                  5                  10                  15  
 Phe Glu Asn Glu Val Leu Gly Tyr Trp Val Gly Tyr Asn Asp Val Ser  
                   20                  25                  30  
 Asn Ile Lys Asn Ser Ile Ile Tyr Ile Tyr Lys Tyr Asn Gly Glu Val  
                   35                  40                  45  
 Tyr Gly Arg Ile Leu Thr Ile Ile Lys Asp Gly Lys Lys Tyr Asp Ala  
                   50                  55                  60

Lys Asn Pro Ser Gly Asp Thr Val Val Gly Phe Glu Asn Leu Ala Ile  
 65 70 75 80  
 Glu Gly Leu Asp Phe Met Trp Gly Leu Lys Tyr Ser Ser Ser Ser Lys  
 85 90 95  
 Lys Trp Asp Arg Gly Lys Ile Ile Asp Pro Lys Asn Gly Lys Ile Tyr  
 100 105 110  
 Asn Ser Glu Met Arg Val Asp Ser Lys Thr Gly Asn Leu Ile Thr Lys  
 115 120 125  
 Gly Lys Val Trp Ile Phe Gly Arg Ser Lys Ile Trp Thr Arg Ala Lys  
 130 135 140  
 Asp Asp Glu Ile Pro Lys Leu Asp Leu His Asn Leu Val Pro Ala Pro  
 145 150 155 160  
 Pro Val Lys Lys

<210> 111  
 <211> 561  
 <212> DNA  
 <213> Homo sapiens

<400> 111  
 atgactagag ttttttcaaa gttttttctt tttttttggt tttcaatgct tttatttgca 60  
 aattcagaag attcaaatga aaaggacatt gtttagcaagg atgaaaaccc tgtttttgaa 120  
 aatgaagttt taggatattg gggttggttat aatgatgtaa gtaacataaa gaattctatt 180  
 atctatatatt ataaatataa tggggaagtt tatggccgaa ttttaactat aataaaagat 240  
 ggcaaaaagt atgatgctaa aaatccttca ggagatactg tagttgggtt tgaaaatcctt 300  
 gcaatagagg gtcttgattt tatgtggggt cttaagtatt cttcttcttc taaaaagtgg 360  
 gataggggca aaataataga tcctaaaaac ggtaaaattt ataattctga gatgcgtggt 420  
 gatagtaaaa ccggaaatct tattaccaag gggaaagttt ggatttttgg tagaagtaaa 480  
 atttgacaaa gagctaaaga tgatgaaata ccaaaattag atttgcataa tcttgttcca 540  
 gcgccccctg tgaaaaaata a 561

<210> 112  
 <211> 495  
 <212> DNA  
 <213> Homo sapiens

<400> 112  
 gaagattcaa atgaaaagga cattgttagc aaggatgaaa accctgtttt tgaaaatgaa 60  
 gttttaggat attgggttgg ttataatgat gtaagtaaca taaagaattc tattatctat 120  
 atttataaat ataatgggga agtttatggc cgaattttta ctataataaa agatggcaaa 180  
 aagtatgatg ctaaaaatcc ttcaggagat actgtagttg ggtttgaaaa tcttgcaata 240  
 gagggctcttg attttatgtg gggctcttaag tattcttctt cttctaaaaa gtgggatagg 300  
 ggcaaaaata tagatcctaa aaacggtaaa atttataatt ctgagatgcg tgttgatagt 360  
 aaaaccggaa atcttattac caaggggaaa gtttgattt ttggtagaag taaaatttgg 420  
 acaagagcta aagatgatga aataccaaaa ttagatttgc ataattctgt tccagcgccc 480  
 cctgtgaaaa aataa 495

<210> 113  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<400> 113

Met Asn Lys Leu Met Leu Met Leu Ile Thr Phe Ala Thr Ser Leu Leu  
1 5 10 15  
Ala Gln Thr Asn Lys Ala Ser Thr Gly Leu Lys Thr Asp Gln Ser Phe  
20 25 30  
Asn Asn Ser Leu Ser Glu Ser Val Lys Leu Lys Glu Ile Ala Asp Ile  
35 40 45  
Tyr Pro Thr Asn Thr Asn Phe Leu Thr Gly Ile Gly Ile Val Ala Gly  
50 55 60  
Leu Ala Gly Lys Gly Asp Ser Ile Lys Gln Lys Asp Leu Ile Ile Lys  
65 70 75 80  
Ile Leu Glu Glu Asn Asn Ile Ile Asn Glu Ile Gly Ser Asn Asn Ile  
85 90 95  
Glu Ser Lys Asn Ile Ala Leu Val Asn Val Ser Leu Gln Val Lys Gly  
100 105 110  
Asn Thr Ile Lys Gly Ser Lys His Lys Ala Cys Val Ala Ser Ile Leu  
115 120 125  
Asp Ser Lys Asp Leu Thr Asn Gly Ile Leu Leu Lys Thr Asn Leu Lys  
130 135 140  
Asn Lys Glu Gly Glu Ile Ile Ala Ile Ala Ser Gly Ile Thr Gln Pro  
145 150 155 160  
Asn Asn Lys Leu Lys Gly Ser Gly Tyr Thr Ile Asp Ser Val Ile Ile  
165 170 175  
Asn Glu Asn Gln Asn Ile Asn His Ser Tyr Asn Ile Ile Leu Lys Lys  
180 185 190  
Gly Asn Tyr Thr Leu Ile Asn Arg Ile His Lys Ile Leu Thr Ser Lys  
195 200 205  
Lys Ile Asn Asn Lys Ile Lys Ser Asp Ser Thr Ile Glu Ile Glu Ala  
210 215 220  
Lys Asn Ile Ser Leu Leu Glu Glu Ile Glu Asn Ile Lys Ile Glu Thr  
225 230 235 240  
Asn Pro Lys Ile Leu Ile Asp Lys Lys Asn Gly Ile Ile Leu Ala Ser  
245 250 255  
Glu Asn Ala Lys Ile Gly Thr Phe Thr Phe Ser Ile Glu Lys Asp Asn  
260 265 270  
Gln Asn Ile Phe Leu Ser Lys Asn Asn Lys Thr Thr Ile Gln Val Asn  
275 280 285  
Ser Met Lys Leu Asn Glu Phe Ile Leu Lys Asn Ser Asn Asn Leu Ser  
290 295 300  
Asn Lys Glu Leu Ile Gln Ile Ile Gln Ala Ala Gln Lys Ile Asn Lys  
305 310 315 320



Leu Asn Gly Glu Leu Ile Leu Glu Glu Ile Asp Gly Asn Gln Asn  
 325 330 335

<210> 114  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

<400> 114  
 Leu Lys Thr Asp Gln Ser Phe Asn Asn Ser Leu Ser Glu Ser Val Lys  
 1 5 10 15  
 Leu Lys Glu Ile Ala Asp Ile Tyr Pro Thr Asn Thr Asn Phe Leu Thr  
 20 25 30  
 Gly Ile Gly Ile Val Ala Gly Leu Ala Gly Lys Gly Asp Ser Ile Lys  
 35 40 45  
 Gln Lys Asp Leu Ile Ile Lys Ile Leu Glu Glu Asn Asn Ile Ile Asn  
 50 55 60  
 Glu Ile Gly Ser Asn Asn Ile Glu Ser Lys Asn Ile Ala Leu Val Asn  
 65 70 75 80  
 Val Ser Leu Gln Val Lys Gly Asn Thr Ile Lys Gly Ser Lys His Lys  
 85 90 95  
 Ala Cys Val Ala Ser Ile Leu Asp Ser Lys Asp Leu Thr Asn Gly Ile  
 100 105 110  
 Leu Leu Lys Thr Asn Leu Lys Asn Lys Glu Gly Glu Ile Ile Ala Ile  
 115 120 125  
 Ala Ser Gly Ile Thr Gln Pro Asn Asn Lys Leu Lys Gly Ser Gly Tyr  
 130 135 140  
 Thr Ile Asp Ser Val Ile Ile Asn Glu Asn Gln Asn Ile Asn His Ser  
 145 150 155 160  
 Tyr Asn Ile Ile Leu Lys Lys Gly Asn Tyr Thr Leu Ile Asn Arg Ile  
 165 170 175  
 His Lys Ile Leu Thr Ser Lys Lys Ile Asn Asn Lys Ile Lys Ser Asp  
 180 185 190  
 Ser Thr Ile Glu Ile Glu Ala Lys Asn Ile Ser Leu Leu Glu Glu Ile  
 195 200 205  
 Glu Asn Ile Lys Ile Glu Thr Asn Pro Lys Ile Leu Ile Asp Lys Lys  
 210 215 220  
 Asn Gly Ile Ile Leu Ala Ser Glu Asn Ala Lys Ile Gly Thr Phe Thr  
 225 230 235 240  
 Phe Ser Ile Glu Lys Asp Asn Gln Asn Ile Phe Leu Ser Lys Asn Asn  
 245 250 255  
 Lys Thr Thr Ile Gln Val Asn Ser Met Lys Leu Asn Glu Phe Ile Leu  
 260 265 270

Lys Asn Ser Asn Asn Leu Ser Asn Lys Glu Leu Ile Gln Ile Ile Gln  
 275 280 285

Ala Ala Gln Lys Ile Asn Lys Leu Asn Gly Glu Leu Ile Leu Glu Glu  
 290 295 300

Ile Asp Gly Asn Gln Asn  
 305 310

<210> 115  
 <211> 1008  
 <212> DNA  
 <213> Homo sapiens

<400> 115  
 atgaacaaac taatgttgat gttaattaca tttgcaacga gtctattagc ccaaacaaac 60  
 aaagcttcaa caggactaaa aacagatcaa tcattttaaca atagcctatc tgaaagcgta 120  
 aaattaaaag aaattgcgga tatttatccc acaaatacaa attttttaac aggtattgga 180  
 atagtgcgg gacttgctgg aaaaggagac tctataaaac aaaaagacct tataattaaa 240  
 attttagaag aaaacaatat aataaatgaa ataggctcta ataacataga aagtaaaaat 300  
 attgcactag taaatgtcag tctccaagta aaaggtaata caatcaaagg ttcaaaacat 360  
 aaagcttgcg ttgcatcaat actggactca aaagatttaa caaatggaat acttttataa 420  
 acaaatttta aaaataaaga gggggaaata atagcaattg catcaggaat tacacagccc 480  
 aataataaat taaaaggatc tggatatact atagatagtg taataataaa tgagaatcaa 540  
 aatattaacc acagttataa tataattcctt aaaaaaggaa attatacatt aataaataga 600  
 attcataaaa tattaacctc taaaaaaatc aacaacaaaa tttaatcaga cagcacaata 660  
 gaaatagaag caaaaaacat aagcctatta gaagagattg aaaatattaa aatagaaacc 720  
 aaccccaaga tattaataga caaaaaaaat ggtattatct tagcaagtga aaatgcaaaa 780  
 ataggaactt ttacattttc cattgaaaaa gacaatcaaa acattttttt aagtaaaaat 840  
 aacaaaacaa caattcaagt aaactcaatg aaattaaatg aatttatatt aaaaaattcc 900  
 aacaatttta gcaataaaga attaatctaa ataattcaag ctgcgcaaaa aattaataaa 960  
 ttaaatgggg aacttatctt ggaggaaatt gatggaaacc aaaattaa 1008

<210> 116  
 <211> 933  
 <212> DNA  
 <213> Homo sapiens

<400> 116  
 ctaaaaacag atcaatcatt taacaatagc ctatctgaaa gcgtaaaatt aaaagaaatt 60  
 gcggatattt atcccacaaa tacaaatttt ttaacaggta ttggaatagt agcgggactt 120  
 gctggaaaag gagactctat aaaacaaaaa gaccttataa ttaaaatttt agaagaaaac 180  
 aatataataa atgaaatagg ctctaataac atagaaagta aaaatattgc actagtaaat 240  
 gtcagtctcc aagtaaaaagg taatacaatc aaagggttcaa aacataaagc ttgcgttgca 300  
 tcaatactgg actcaaaaga tttacaaaat ggaatacttt taaaaacaaa tcttaaaaaat 360  
 aaagaggggg aaataatagc aattgcatca ggaattacac agcccaataa taaattaaaa 420  
 ggatctggat atactataga tagtgtaata ataaatgaga atcaaaatat taaccacagt 480  
 tataatataa ttcttaaaaa aggaaattat acattaataa atagaattca taaaatatta 540  
 acctctaaaa aaatcaacaa caaaatttaa tcagacagca caatagaaat agaagcaaaa 600  
 aacataagcc tattagaaga gattgaaaat attaaaatag aaaccaaccc caagatatta 660  
 atagacaaaa aaaatgggtat tatttttagca agtgaaaatg caaaaatagg aactttttaca 720  
 ttttccattg aaaaagacaa tcaaaacatt tttttaagta aaaataacaa aacaacaatt 780  
 caagtaaaact caatgaaatt aaatgaattt atattaaaaa attccaacaa tcttagcaat 840  
 aaagaattaa ttcaaataat tcaagctgcg caaaaaatta ataaattaaa tgggggaactt 900  
 atcttgaggg aaattgatgg aaacaaaaat taa 933

<210> 117  
 <211> 117  
 <212> PRT

<213> Homo sapiens

<400> 117

Met Cys Pro Ile Thr Phe Thr Ile Pro Phe Phe Leu Ala Ile Phe Phe  
1 5 10 15  
Ala Phe Ser Ser Ser Phe Val Thr Asp Ser Ser Val Ser Leu Leu Ser  
20 25 30  
Arg Asn Thr Ser Leu Phe Ser Thr Leu Thr Pro Ile Ser Leu Pro Ile  
35 40 45  
Ile Ser Gly Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu  
50 55 60  
Ser Ile Ser Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe  
65 70 75 80  
Glu Val Ile Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly  
85 90 95  
Tyr Phe Leu Asn Ala Phe Ser Ile Phe Leu Cys Ile Ser Ser Phe Leu  
100 105 110  
Ser Phe Met Phe Ile  
115

<210> 118

<211> 98

<212> PRT

<213> Homo sapiens

<400> 118

Ser Ser Phe Val Thr Asp Ser Ser Val Ser Leu Leu Ser Arg Asn Thr  
1 5 10 15  
Ser Leu Phe Ser Thr Leu Thr Pro Ile Ser Leu Pro Ile Ile Ser Gly  
20 25 30  
Thr Leu Pro Ala Ile Val Thr Leu Ser Lys Lys Tyr Leu Ser Ile Ser  
35 40 45  
Leu Ser Phe Ser Lys Met Ile Phe Ile Lys Ser Leu Phe Glu Val Ile  
50 55 60  
Lys Leu Pro Ile Trp Leu Phe Ile Ile Phe Ala Ser Gly Tyr Phe Leu  
65 70 75 80  
Asn Ala Phe Ser Ile Phe Leu Cys Ile Ser Ser Phe Leu Ser Phe Met  
85 90 95  
Phe Ile

<210> 119

<211> 354

<212> DNA

<213> Homo sapiens

<400> 119

atgtgtccta ttactttttac cattccattt tttctagcaa tattttttgc tttttcaagc 60  
tccttttgta cggactcttc tgtgtctttg ctatcaagaa atacgtctct tttttctact 120  
ttaactccaa tttctttgccc tattatttct ggtacgcttc ctgcaatagt tacgctgtcg 180  
aaaaaataatc tgtcaatctc tttaagcttt tctaaaatga ttttcatcaa atctttattt 240  
gaagtgatta aacttcccat atggttattc attatttttg catcaggata ctttttaaat 300  
gctttttcga tttttttgtg tatttcttct tttttatctt ttatgtttat atga 354

<210> 120

<211> 297

<212> DNA

<213> Homo sapiens

<400> 120

agctcctttg ttacggactc ttctgtgtct ttgctatcaa gaaatacgtc tcttttttct 60  
actttaactc caatttcttt gcctattatt tctggtagcg ttcttgcaat agttacgctg 120  
tcgaaaaaat atctgtcaat ctctttaagc ttttctaaaa tgattttcat caaatcttta 180  
tttgaagtga ttaaacttcc catatgggta ttcattattt ttgcatcagg atacttttta 240  
aatgcttttt cgattttttt gtgtatttct tcttttttat cttttatggt tatatga 297

<210> 121

<211> 309

<212> PRT

<213> Homo sapiens

<400> 121

Met Ala Asn Val Ala Leu Ser Ser Gly Phe Ile Ser Gln Lys Ile Phe  
1 5 10 15

Gly Ile Ile Ile Ile Met Val Phe Leu Pro Thr Ile Ile Ala Thr Pro  
20 25 30

Ile Ile Asn Phe Leu Phe Lys Ile Asn Lys Ser Gly Leu Lys Lys Glu  
35 40 45

Leu Pro Ile Asp Gln Asn Thr His Ile Cys Val Ser Phe Glu Tyr Asp  
50 55 60

Asn Leu Ala Lys Ile Leu Ile Trp Asp Phe Lys Asn Glu Leu Arg Lys  
65 70 75 80

Glu Gly Phe Phe Thr Gln Gln Ile Lys Asn Asp Ser Ser Gln Tyr Ile  
85 90 95

Asn Ala Arg Lys Asn Asn Ile Ser Phe Ser Ile Lys Arg Glu Gly Ser  
100 105 110

Lys Ile Thr Phe Glu Cys Pro Asn Asn His Leu Ile Ile Ile Gln Asp  
115 120 125

Leu Phe Arg Glu Thr Ile Leu Asn Leu Glu Lys Ile Thr Lys Glu Val  
130 135 140

Glu Thr Val Ser Leu Arg Ala Lys Lys Leu Asp Tyr Ser Ile Asn Tyr  
145 150 155 160

Asp Lys Ile Leu Ser Asn Ile Asn Leu Asn Lys Arg Ile Lys Lys Glu  
165 170 175

Asn Ile Ile Leu Glu Leu Lys Ser Ser Asn Lys Ala Asp Val Ile Arg  
180 185 190

Glu Leu Leu Ser Val Ile Asn Ile Glu Ile Asp Lys Glu Arg Ile Phe  
 195 200 205  
 Gln Asp Leu Met Glu Arg Glu Lys Leu Ile Thr Thr Ala Leu Lys Glu  
 210 215 220  
 Gly Phe Ala Ile Pro His Leu Lys Thr Asn Leu Ile Ser Lys Ile His  
 225 230 235 240  
 Ile Ala Ile Gly Ile Ser His Glu Gly Ile Asp Phe Asn Ala Leu Asp  
 245 250 255  
 Lys Asn Leu Ser His Val Phe Ile Leu Ile Leu Cys Pro Ala Lys Asp  
 260 265 270  
 Tyr Val Ser Tyr Pro Arg Ile Leu Ala Ser Val Val Gly Lys Val Asp  
 275 280 285  
 Leu Tyr Lys Lys Glu Ile Leu Asn Ala Lys Thr Asp Lys Glu Ile Tyr  
 290 295 300

Asn Ile Ile Val Ser  
 305

<210> 122  
 <211> 287  
 <212> PRT  
 <213> Homo sapiens

<400> 122

Val Phe Leu Pro Thr Ile Ile Ala Thr Pro Ile Ile Asn Phe Leu Phe  
 1 5 10 15

Lys Ile Asn Lys Ser Gly Leu Lys Lys Glu Leu Pro Ile Asp Gln Asn  
 20 25 30

Thr His Ile Cys Val Ser Phe Glu Tyr Asp Asn Leu Ala Lys Ile Leu  
 35 40 45

Ile Trp Asp Phe Lys Asn Glu Leu Arg Lys Glu Gly Phe Phe Thr Gln  
 50 55 60

Gln Ile Lys Asn Asp Ser Ser Gln Tyr Ile Asn Ala Arg Lys Asn Asn  
 65 70 75 80

Ile Ser Phe Ser Ile Lys Arg Glu Gly Ser Lys Ile Thr Phe Glu Cys  
 85 90 95

Pro Asn Asn His Leu Ile Ile Ile Gln Asp Leu Phe Arg Glu Thr Ile  
 100 105 110

Leu Asn Leu Glu Lys Ile Thr Lys Glu Val Glu Thr Val Ser Leu Arg  
 115 120 125

Ala Lys Lys Leu Asp Tyr Ser Ile Asn Tyr Asp Lys Ile Leu Ser Asn  
 130 135 140

Ile Asn Leu Asn Lys Arg Ile Lys Lys Glu Asn Ile Ile Leu Glu Leu  
 145 150 155 160

Lys Ser Ser Asn Lys Ala Asp Val Ile Arg Glu Leu Leu Ser Val Ile  
 165 170 175  
 Asn Ile Glu Ile Asp Lys Glu Arg Ile Phe Gln Asp Leu Met Glu Arg  
 180 185 190  
 Glu Lys Leu Ile Thr Thr Ala Leu Lys Glu Gly Phe Ala Ile Pro His  
 195 200 205  
 Leu Lys Thr Asn Leu Ile Ser Lys Ile His Ile Ala Ile Gly Ile Ser  
 210 215 220  
 His Glu Gly Ile Asp Phe Asn Ala Leu Asp Lys Asn Leu Ser His Val  
 225 230 235 240  
 Phe Ile Leu Ile Leu Cys Pro Ala Lys Asp Tyr Val Ser Tyr Pro Arg  
 245 250 255  
 Ile Leu Ala Ser Val Val Gly Lys Val Asp Leu Tyr Lys Lys Glu Ile  
 260 265 270  
 Leu Asn Ala Lys Thr Asp Lys Glu Ile Tyr Asn Ile Ile Val Ser  
 275 280 285

<210> 123  
 <211> 930  
 <212> DNA  
 <213> Homo sapiens

<400> 123  
 atggcaaagt tagcattatc ttcaggattt attagccaaa aaatatttgg aatcataata 60  
 ataatggtgt ttttgccaac aatcattgca acaccataa taaacttttt atttaaaata 120  
 aataaaagt gacttaaaaa agaactccca atagatcaaa atacacacat atgcgtatca 180  
 tttgaatatg ataatttagc caaaattctt atatgggact ttaaaaatga gttaagaaaa 240  
 gaaggatttt ttacacaaca aattaaaaat gattcttcac aatatattaa tgcaagaaaa 300  
 aacaatatat ccttctcaat aaaacgagaa ggtagcaaaa tcacatttga atgcccaaat 360  
 aatcatttaa ttataatata agatcttttt agagaaacaa tcttaaacct agaaaaata 420  
 accaaagaag ttgaaacagt ctctttaaga gcaaaaaaac tagattactc aataaattac 480  
 gataaaatcc ttagtaatat caacctaaat aaaagaataa aaaaggaaaa cattattcta 540  
 gaattaaaat caagcaataa ggctgatgta ataagagagc ttctaagcgt aataaacatt 600  
 gaaattgata aagaaagaat attccaagat ttaattggaaa gagaaaagtt aattactact 660  
 gcactaaaag aaggctttgc cattcccat ttaaaaaacaa atttaatatc aaaaatacat 720  
 attgcaatag gaataagcca tgagggaatt gactttaatg ctcttgacaa gaacttaagt 780  
 catgttttta tattaatact gtgccagca aaagattacg ttagctaccc tagaatttta 840  
 gcatctgttg tgggcaaagt tgatctgtac aaaaaagaaa ttttaaatgc aaaaacagat 900  
 aaagaaattt ataataaat agtgagctaa 930

<210> 124  
 <211> 861  
 <212> DNA  
 <213> Homo sapiens

<400> 124  
 tttttgccaa caatcattgc aacacccata ataaactttt tatttaaaat aaataaaagt 60  
 ggacttaaaa aagaactccc aatagatcaa aatacacaca tatgcgtatc atttgaatat 120  
 gataatttag ccaaaattct tatatgggac tttaaaaatg agttaagaaa agaaggattt 180  
 ttacacaac aaattaaaaa tgattcttca caatatatta atgcaagaaa aaacaatata 240  
 tccttctcaa taaaacgaga aggtagcaaa atcacatttg aatgcccaaa taatcattta 300  
 attataatac aagatctttt tagagaaaca atcttaaacc tagaaaaaat aaccaagaa 360

gttgaaacag tctctttaag agcaaaaaaa ctagattact caataaatta cgataaaaatc 420  
 ctttagtaata tcaacctaaa taaaagaata aaaaaggaaa acattattct agaattaaaa 480  
 tcaagcaata aggctgatgt aataagagag cttctaagcg taataaacat tgaaattgat 540  
 aaagaaagaa tattccaaga tttaatggaa agagaaaagt taattactac tgcactaaaa 600  
 gaaggctttg ccattcccca tttaaaaaca aatttaatat caaaaataca tattgcaata 660  
 ggaataagcc atgaggggaat tgactttaat gctcttgaca agaacttaag tcatgttttt 720  
 atattaatac tgtgcccagc aaaagattac gtttagctacc ctagaatttt agcatctgtt 780  
 gtgggcaaag ttgatctgta caaaaaagaa attttaaatg caaaaacaga taaagaaatt 840  
 tataatataa tagtgagcta a 861

<210> 125

<211> 285

<212> PRT

<213> Homo sapiens

<400> 125

Met Glu Lys Pro Gln Gly Val Ser Ile Val Gly Ala Ile Ser Gly Ala  
 1 5 10 15

Met His Val His Leu Met Ala Glu His Tyr Gly Val Pro Val Val Leu  
 20 25 30

His Thr Asp His Cys Ala Lys Asn Leu Leu Pro Trp Val Glu Gly Leu  
 35 40 45

Leu Glu Tyr Gly Glu Lys Tyr Tyr Ser Gln His Lys Lys Pro Leu Phe  
 50 55 60

Ser Ser His Met Leu Asp Leu Ser Glu Glu Pro Ile Lys Glu Asn Ile  
 65 70 75 80

Glu Ile Ser Lys Lys Phe Leu Glu Arg Met Ala Lys Ile Glu Met Phe  
 85 90 95

Leu Glu Ile Glu Leu Gly Ile Thr Gly Gly Glu Glu Asp Gly Val Asp  
 100 105 110

Asn Ser Asp Arg Ala Leu His Glu Leu Phe Ser Thr Pro Glu Asp Ile  
 115 120 125

Tyr Tyr Gly Tyr Ser Glu Leu Leu Lys Val Ser Pro Asn Phe Gln Ile  
 130 135 140

Ala Ala Ala Phe Gly Asn Val His Gly Val Tyr Lys Pro Gly Asn Val  
 145 150 155 160

Lys Leu Thr Pro Lys Val Leu Lys Asp Gly Gln Asp Tyr Val Ile Ser  
 165 170 175

Lys Thr Gly Val Asn Met Ala Lys Pro Val Ser Tyr Val Phe His Gly  
 180 185 190

Gly Ser Gly Ser Thr Ile Asp Glu Ile Asn Glu Ala Leu Ser Tyr Gly  
 195 200 205

Val Val Lys Met Asn Ile Asp Thr Asp Thr Gln Trp Ala Ala Trp Glu  
 210 215 220

Gly Val Leu Asn Tyr Tyr Lys Lys Asn Glu Ser Arg Leu Gln Gly Gln  
 225 230 235 240

Leu Gly Asp Gly Lys Asp Ile Asp Ile Pro Asn Lys Lys Phe Tyr Asp  
 245 250 255

Pro Arg Val Trp Leu Arg Glu Ala Glu Val Ser Met Lys Asp Arg Val  
 260 265 270

Lys Ile Ala Cys Lys Asn Leu Asn Asn Ile Asn Arg Asn  
 275 280 285

<210> 126

<211> 269

<212> PRT

<213> Homo sapiens

<400> 126

Met His Val His Leu Met Ala Glu His Tyr Gly Val Pro Val Val Leu  
 1 5 10 15

His Thr Asp His Cys Ala Lys Asn Leu Leu Pro Trp Val Glu Gly Leu  
 20 25 30

Leu Glu Tyr Gly Glu Lys Tyr Tyr Ser Gln His Lys Lys Pro Leu Phe  
 35 40 45

Ser Ser His Met Leu Asp Leu Ser Glu Glu Pro Ile Lys Glu Asn Ile  
 50 55 60

Glu Ile Ser Lys Lys Phe Leu Glu Arg Met Ala Lys Ile Glu Met Phe  
 65 70 75 80

Leu Glu Ile Glu Leu Gly Ile Thr Gly Gly Glu Glu Asp Gly Val Asp  
 85 90 95

Asn Ser Asp Arg Ala Leu His Glu Leu Phe Ser Thr Pro Glu Asp Ile  
 100 105 110

Tyr Tyr Gly Tyr Ser Glu Leu Leu Lys Val Ser Pro Asn Phe Gln Ile  
 115 120 125

Ala Ala Ala Phe Gly Asn Val His Gly Val Tyr Lys Pro Gly Asn Val  
 130 135 140

Lys Leu Thr Pro Lys Val Leu Lys Asp Gly Gln Asp Tyr Val Ile Ser  
 145 150 155 160

Lys Thr Gly Val Asn Met Ala Lys Pro Val Ser Tyr Val Phe His Gly  
 165 170 175

Gly Ser Gly Ser Thr Ile Asp Glu Ile Asn Glu Ala Leu Ser Tyr Gly  
 180 185 190

Val Val Lys Met Asn Ile Asp Thr Asp Thr Gln Trp Ala Ala Trp Glu  
 195 200 205

Gly Val Leu Asn Tyr Tyr Lys Lys Asn Glu Ser Arg Leu Gln Gly Gln  
 210 215 220

Leu Gly Asp Gly Lys Asp Ile Asp Ile Pro Asn Lys Lys Phe Tyr Asp  
 225 230 235 240



Pro Arg Val Trp Leu Arg Glu Ala Glu Val Ser Met Lys Asp Arg Val  
 245 250 255

Lys Ile Ala Cys Lys Asn Leu Asn Asn Ile Asn Arg Asn  
 260 265

<210> 127  
 <211> 858  
 <212> DNA  
 <213> Homo sapiens

<400> 127  
 atggaaaaac cacaaggagt ttcaatagtt ggagctatct ctggtgctat gcatgttcat 60  
 ttaatggcag agcattatgg tgttcctggt gttcttcata ctgatcactg tgctaaaaat 120  
 ttgcttcctt gggttgaagg ccttttagaa tatggagaga aatactatag tcagcacaaa 180  
 aaaccattat tttcttcaca tatgttagat ttatcagaag aacctattaa agaaaatatt 240  
 gaaatttcta aaaaattctt agaaagaatg gcaaaaattg aaatgttttt ggaaatagag 300  
 cttggaatta cgggtgggga agaggatgga gttgacaatt cagatagagc tttgcatgaa 360  
 ctattttcta ctctgagga tatttattat ggatattcag aactttttaa agttagccca 420  
 aattttcaga ttgcagcagc ttttggaat gttcatgggg tatataaacc ggggaatggt 480  
 aagcttactc caaaagtgtt aaaagatggt caagattatg tcatatcaaa aacaggagta 540  
 aatatggcta agccagtgtt ttatgttttt catggagggt ctggatctac aattgatgag 600  
 attaattgag cgctttctta tggcgttgta aagatgaata ttgacacaga tacacagtgg 660  
 gctgcctggg aggggtgttt aaattattac aaaaaaatg aaagtcgttt gcaagggtcaa 720  
 ttaggagatg gcaaggatat tgatattcca aataagaaat tttatgatcc aagggtttgg 780  
 ttaagagaag ctgaagtgtt tatgaaagac cgtgtgaaga ttgcatgcaa aaatcttaat 840  
 aatattaata gaaattaa 858

<210> 128  
 <211> 810  
 <212> DNA  
 <213> Homo sapiens

<400> 128  
 atgcatgttc atttaatggc agagcattat ggtgttcctg ttgttcttca tactgatcac 60  
 tgtgctaaaa atttgcttcc ttgggttgaa ggccttttag aatatggaga gaaatactat 120  
 agtcagcaca aaaaaccatt attttcttca catatgttag atttatcaga agaacctatt 180  
 aaagaaaata ttgaaatttc taaaaaatc ttagaaagaa tggcaaaaat tgaaatgttt 240  
 ttggaaatag agcttggaat tacgggtggg gaagaggatg gagttgacaa ttcagataga 300  
 gctttgcatg aactattttc tactcctgag gatatttatt atggatattc agaactttta 360  
 aaagttagcc caaattttca gattgcagca gcttttgaa atgttcatgg ggtatataaa 420  
 ccggggaatg ttaagcttac tccaaaagtt ttaaaagatg gtcaagatta tgtcatatca 480  
 aaaacaggag taaatatggc taagccagtt tcttatgttt ttcattggagg gtctggatct 540  
 acaattgatg agattaatga ggcgctttct tatggcgttg taaagatgaa tattgacaca 600  
 gatacacagt gggctgcctg ggaggggtgt ttaaattatt acaaaaaaaa tgaaagtcgt 660  
 ttgcaagggtc aattaggaga tggcaaggat attgatattc caaataagaa attttatgat 720  
 ccaagggttt ggttaagaga agctgaagtt tctatgaaag accgtgtgaa gattgcatgc 780  
 aaaaatctta ataatttaa tagaaattaa 810

<210> 129  
 <211> 650  
 <212> PRT  
 <213> Homo sapiens

<400> 129  
 Met Pro Ser Ser Phe Pro Phe Leu Leu Val Asn Gly Ser Ser Gly Ile  
 1 5 10 15

Ala Val Gly Met Ala Thr Asn Met Ala Pro His Asn Leu Arg Glu Ile

20										25										30										
Cys	Asp	Ala	Ile	Val	Tyr	Met	Leu	Asp	Asn	Glu	Asn	Ala	Ser	Ile	Phe															
		35					40					45																		
Asp	Leu	Leu	Lys	Ile	Val	Lys	Gly	Pro	Asp	Phe	Pro	Thr	Phe	Gly	Glu															
	50					55					60																			
Ile	Val	Tyr	Asn	Asp	Asn	Leu	Ile	Lys	Ala	Tyr	Lys	Thr	Gly	Lys	Gly															
	65				70					75					80															
Ser	Val	Val	Ile	Arg	Ala	Arg	Tyr	His	Ile	Glu	Glu	Arg	Ala	Glu	Asp															
			85						90					95																
Arg	Asn	Ala	Ile	Ile	Val	Thr	Glu	Ile	Pro	Tyr	Thr	Val	Asn	Lys	Ser															
			100					105					110																	
Ala	Leu	Leu	Met	Lys	Val	Ala	Leu	Leu	Ala	Lys	Glu	Glu	Lys	Leu	Glu															
		115					120					125																		
Gly	Leu	Leu	Asp	Ile	Arg	Asp	Glu	Ser	Asp	Arg	Glu	Gly	Ile	Arg	Ile															
	130					135					140																			
Val	Leu	Glu	Val	Lys	Arg	Gly	Phe	Asp	Pro	His	Val	Ile	Met	Asn	Leu															
	145				150					155				160																
Leu	Tyr	Glu	Tyr	Thr	Glu	Phe	Lys	Lys	His	Phe	Ser	Ile	Asn	Asn	Leu															
			165						170					175																
Ala	Leu	Val	Asn	Gly	Ile	Pro	Lys	Gln	Leu	Asn	Leu	Glu	Glu	Leu	Leu															
		180						185					190																	
Phe	Glu	Phe	Ile	Glu	His	Arg	Lys	Asn	Ile	Ile	Glu	Arg	Arg	Ile	Glu															
	195					200					205																			
Phe	Asp	Leu	Arg	Lys	Ala	Lys	Glu	Lys	Ala	His	Val	Leu	Glu	Gly	Leu															
	210					215					220																			
Asn	Ile	Ala	Leu	Asn	Asn	Ile	Asp	Glu	Val	Ile	Lys	Ile	Ile	Lys	Ser															
	225				230					235				240																
Ser	Lys	Leu	Ala	Lys	Asp	Ala	Arg	Glu	Arg	Leu	Val	Ser	Asn	Phe	Gly															
			245					250						255																
Leu	Ser	Glu	Ile	Gln	Ala	Asn	Ser	Val	Leu	Asp	Met	Arg	Leu	Gln	Lys															
		260					265						270																	
Leu	Thr	Ala	Leu	Glu	Ile	Phe	Lys	Leu	Glu	Glu	Glu	Leu	Asn	Ile	Leu															
	275					280						285																		
Leu	Ser	Leu	Ile	Lys	Asp	Tyr	Glu	Asp	Ile	Leu	Leu	Asn	Pro	Val	Arg															
	290				295					300																				
Ile	Ile	Asn	Ile	Ile	Arg	Glu	Glu	Thr	Ile	Asn	Leu	Gly	Leu	Lys	Phe															
	305				310				315					320																
Gly	Asp	Glu	Arg	Arg	Thr	Lys	Ile	Ile	Tyr	Asp	Glu	Glu	Val	Leu	Lys															
			325					330					335																	
Thr	Ser	Met	Ser	Asp	Leu	Met	Gln	Lys	Glu	Asn	Ile	Val	Val	Met	Leu															

340	345	350
Thr Lys Lys Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu		
355	360	365
Gln Gly Thr Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly		
370	375	380
Asp Glu Ile Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe		
385	390	395
Met Ile Ser Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile		
405	410	415
Lys Asp Ser Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile		
420	425	430
Asn Leu Gly Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp		
435	440	445
Leu Thr Asp Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile		
450	455	460
Ala Arg Phe Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val		
465	470	475
Ile Val Ile Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile		
485	490	495
Val Phe Lys Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala		
500	505	510
Phe Ile Phe Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln		
515	520	525
Gly Val Cys Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val		
530	535	540
Leu Ser Val Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly		
545	550	555
Tyr Gly Lys Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly		
565	570	575
Ala Thr Gly Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser		
580	585	590
Val Val Asp Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val		
595	600	605
Ser Lys Arg Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu		
610	615	620
Gln Gly Lys Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp		
625	630	635
Ser Leu Val Ser Val Ser Lys Phe Ile Lys		
645	650	

<210> 130

<211> 631  
 <212> PRT  
 <213> Homo sapiens

<400> 130

Met	Ala	Thr	Asn	Met	Ala	Pro	His	Asn	Leu	Arg	Glu	Ile	Cys	Asp	Ala	1	5	10	15
Ile	Val	Tyr	Met	Leu	Asp	Asn	Glu	Asn	Ala	Ser	Ile	Phe	Asp	Leu	Leu	20	25	30	
Lys	Ile	Val	Lys	Gly	Pro	Asp	Phe	Pro	Thr	Phe	Gly	Glu	Ile	Val	Tyr	35	40	45	
Asn	Asp	Asn	Leu	Ile	Lys	Ala	Tyr	Lys	Thr	Gly	Lys	Gly	Ser	Val	Val	50	55	60	
Ile	Arg	Ala	Arg	Tyr	His	Ile	Glu	Glu	Arg	Ala	Glu	Asp	Arg	Asn	Ala	65	70	75	80
Ile	Ile	Val	Thr	Glu	Ile	Pro	Tyr	Thr	Val	Asn	Lys	Ser	Ala	Leu	Leu	85	90	95	
Met	Lys	Val	Ala	Leu	Leu	Ala	Lys	Glu	Glu	Lys	Leu	Glu	Gly	Leu	Leu	100	105	110	
Asp	Ile	Arg	Asp	Glu	Ser	Asp	Arg	Glu	Gly	Ile	Arg	Ile	Val	Leu	Glu	115	120	125	
Val	Lys	Arg	Gly	Phe	Asp	Pro	His	Val	Ile	Met	Asn	Leu	Leu	Tyr	Glu	130	135	140	
Tyr	Thr	Glu	Phe	Lys	Lys	His	Phe	Ser	Ile	Asn	Asn	Leu	Ala	Leu	Val	145	150	155	160
Asn	Gly	Ile	Pro	Lys	Gln	Leu	Asn	Leu	Glu	Glu	Leu	Leu	Phe	Glu	Phe	165	170	175	
Ile	Glu	His	Arg	Lys	Asn	Ile	Ile	Glu	Arg	Arg	Ile	Glu	Phe	Asp	Leu	180	185	190	
Arg	Lys	Ala	Lys	Glu	Lys	Ala	His	Val	Leu	Glu	Gly	Leu	Asn	Ile	Ala	195	200	205	
Leu	Asn	Asn	Ile	Asp	Glu	Val	Ile	Lys	Ile	Ile	Lys	Ser	Ser	Lys	Leu	210	215	220	
Ala	Lys	Asp	Ala	Arg	Glu	Arg	Leu	Val	Ser	Asn	Phe	Gly	Leu	Ser	Glu	225	230	235	240
Ile	Gln	Ala	Asn	Ser	Val	Leu	Asp	Met	Arg	Leu	Gln	Lys	Leu	Thr	Ala	245	250	255	
Leu	Glu	Ile	Phe	Lys	Leu	Glu	Glu	Glu	Leu	Asn	Ile	Leu	Leu	Ser	Leu	260	265	270	
Ile	Lys	Asp	Tyr	Glu	Asp	Ile	Leu	Leu	Asn	Pro	Val	Arg	Ile	Ile	Asn	275	280	285	
Ile	Ile	Arg	Glu	Glu	Thr	Ile	Asn	Leu	Gly	Leu	Lys	Phe	Gly	Asp	Glu				

290	295	300
Arg Arg Thr Lys Ile Ile Tyr Asp Glu Glu Val Leu Lys Thr Ser Met		
305	310	315 320
Ser Asp Leu Met Gln Lys Glu Asn Ile Val Val Met Leu Thr Lys Lys		
	325	330 335
Gly Phe Leu Lys Arg Leu Ser Gln Asn Glu Tyr Lys Leu Gln Gly Thr		
	340	345 350
Gly Gly Lys Gly Leu Ser Ser Phe Asp Leu Asn Asp Gly Asp Glu Ile		
	355	360 365
Val Ile Ala Leu Cys Val Asn Thr His Asp Tyr Leu Phe Met Ile Ser		
	370	375 380
Asn Glu Gly Lys Leu Tyr Leu Ile Asn Ala Tyr Glu Ile Lys Asp Ser		
	385	390 395 400
Ser Arg Ala Ser Lys Gly Gln Asn Ile Ser Glu Leu Ile Asn Leu Gly		
	405	410 415
Asp Gln Glu Glu Ile Leu Thr Ile Lys Asn Ser Lys Asp Leu Thr Asp		
	420	425 430
Asp Ala Tyr Leu Leu Leu Thr Thr Ala Ser Gly Lys Ile Ala Arg Phe		
	435	440 445
Glu Ser Thr Asp Phe Lys Ala Val Lys Ser Arg Gly Val Ile Val Ile		
	450	455 460
Lys Leu Asn Asp Lys Asp Phe Val Thr Ser Ala Glu Ile Val Phe Lys		
	465	470 475 480
Asp Glu Lys Val Ile Cys Leu Ser Lys Lys Gly Ser Ala Phe Ile Phe		
	485	490 495
Asn Ser Arg Asp Val Arg Leu Thr Asn Arg Gly Thr Gln Gly Val Cys		
	500	505 510
Gly Met Lys Leu Lys Glu Gly Asp Leu Phe Val Lys Val Leu Ser Val		
	515	520 525
Lys Glu Asn Pro Tyr Leu Leu Ile Val Ser Glu Asn Gly Tyr Gly Lys		
	530	535 540
Arg Leu Asn Met Ser Lys Ile Ser Glu Leu Lys Arg Gly Ala Thr Gly		
	545	550 555 560
Tyr Thr Ser Tyr Lys Lys Ser Asp Lys Lys Ala Gly Ser Val Val Asp		
	565	570 575
Ala Ile Ala Val Ser Glu Asp Asp Glu Ile Leu Leu Val Ser Lys Arg		
	580	585 590
Ser Lys Ala Leu Arg Thr Val Ala Gly Lys Val Ser Glu Gln Gly Lys		
	595	600 605
Asp Ala Arg Gly Ile Gln Val Leu Phe Leu Asp Asn Asp Ser Leu Val		

610

615

620

Ser Val Ser Lys Phe Ile Lys  
625 630

<210> 131  
<211> 1953  
<212> DNA  
<213> Homo sapiens

<400> 131  
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gataatgaga atgcttctat atttgatttg cttaaaatag ttaaagggcc tgatttccca 180  
acttttggag agattgttta taatgataat ttaattaaag catacaaaac tggcaaggga 240  
agtgttggtta ttagggcaag atatcatatt gaagaaagag cagaagatag aaatgctata 300  
attgtttacag aaatacctta tacggtaaat aaatctgcac ttcttatgaa agttgcgctt 360  
ttagcaaaag aagaaaagct agaaggactt ttagatataa gagatgaatc tgatcgagaa 420  
gggtattagga tagttcttga agttaaaaga ggatttgatc ctcattgttat tatgaatttg 480  
ctttatgaat atactgaatt taaaaagcat tttagtataa ataatttagc ccttggtta 540  
gggtattccca aacagttaaa tttagaagaa ttgttatttg aatttattga gcatagaaaa 600  
aatattatcg aaagacgtat tgaatttgac ttgagaaagg caaaagagaa agcacatggt 660  
cttgagggat taaatattgc tttaaataat atagatgagg ttattaagat tattaatatca 720  
tctaaattag caaaagatgc aaggagagagg cttgtttcga attttggtct ttcagagatt 780  
caggccaatt cagttcttga tatgagggtta caaaaactta cagcccttga gatttttaag 840  
cttgaagagg agcttaatat actgttaagc ttaataaaaag attatgaaga tattctcttg 900  
aatccagtaa ggattattaa tattataaga gaagaaaacta ttaatttagg tttgaaattt 960  
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gatttaattgc aaaaagaaaa tattgttggtt atgcttacia agaaagggtt ctttaaaaga 1080  
ctttcacaaa atgagtataa attgcaaggt acgggaggaa aaggactaag ttcgtttgat 1140  
ctaaatgatg gagatgagat tgttattgct ttgtgtgtca atactcatga ttatttattt 1200  
atgatttcaa atgaaggaaa gctttattta atcaatgctt atgaaataaa agattcttca 1260  
agagcttcaa aaggtcagaa tattagttag cttattaatt taggagatca agaagaaata 1320  
ttaactatta agaatagtaa agatttaact gatgatgctt atttattgct tacaactgca 1380  
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attgttatta aactgaatga taaagatttt gttacaagtg cagagattgt ttttaaggat 1500  
gaaaaagtaa tttgtctttc taaaaagggg agtgcattta tatttaattc aagggtatgt 1560  
aggcttacta atagagggtac ccaagggtgtt tgtggaatga aattaaaaga aggtgatttg 1620  
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tatggaaaaa gggtaaacat gtctaaaata tctgagctta aaagaggagc cactgggtat 1740  
actagttata aaaaatctga taaaaaagcg ggtagtgttg ttgatgctat agcagtttca 1800  
gaggatgatg aaatcttgct tgtaagtaaa cgttcaaaag ctttaagaac agtagtgga 1860  
aaagtatctg aacaaggcaa agatgctaga ggaattcaag tattatttct tgataatgac 1920  
agcttggttt ctgtttcaaa atttatttaa taa 1953

<210> 132  
<211> 1896  
<212> DNA  
<213> Homo sapiens

<400> 132  
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ccaacttttg gagagattgt ttataatgat aatttaatta aagcatacaa aactggcaag 180  
ggaagtgttg ttattagggc aagatatcat attgaagaaa gagcagaaga tagaaatgct 240  
ataattgtta cagaaatacc ttatacggta aataaatctg cacttcttat gaaagttgcg 300  
cttttagcaa aagaagaaaa gctagaagga cttttagata taagagatga atctgatcga 360  
gaaggattta ggatagttct tgaagttaaa agaggatttg atcctcatgt tattatgaat 420  
ttgctttatg aatatactga atttaaaaag caatttagta taaataattt agcccttggt 480  
aatgggtattc ccaaacagtt aaatttagaa gaattgttat ttgaatttat tgagcataga 540

aaaaatatta tcgaaagacg tattgaattt gacttgagaa aggcaaaaga gaaagcacat 600  
 gttcttgagg gattaaatat tgctttaaat aatatagatg aggttattaa gattattaaa 660  
 tcatctaaat tagcaaaaga tgcaaggag aggcttggtt cgaattttgg tctttcagag 720  
 attcaggcca attcagttct tgatatgagg ttacaaaaac ttacagccct tgagattttt 780  
 aagcttgaag aggagcttaa tatactgtta agcttaataa aagattatga agatattctc 840  
 ttgaatccag taaggattat taatattata agagaagaaa ctattaattt aggtttgaaa 900  
 tttggcgatg aacgtcgaac taaaataatt tatgatgagg aggtttttaa aactagtatg 960  
 tcggatttaa tgcaaaaaga aaatattgtt gttatgctta caaagaaagg tttccttaaa 1020  
 agactttcac aaaatgagta taaattgcaa ggtacgggag gaaaaggact aagttcgttt 1080  
 gatctaaatg atggagatga gattgttatt gctttgtgtg tcaataactca tgattattta 1140  
 tttatgattt caaatgaagg aaagctttat ttaatcaatg cttatgaaat aaaagattct 1200  
 tcaagagctt caaaagggtca gaatattagt gagcttatta atttaggaga tcaagaagaa 1260  
 atattaacta ttaagaatag taaagattta actgatgatg cttattttatt gcttacaact 1320  
 gcaagtggaa agatagctag attcgaatct acagatttta aagcagtaaa gtcacgaggt 1380  
 gttattgtta ttaaactgaa tgataaagat tttgttacaa gtgcagagat tgtttttaag 1440  
 gatgaaaaag taatttgtct ttctaaaaag ggtagtgcac ttatatttaa ttcaagggat 1500  
 gttaggctta ctaatagagg tacccaagggt gtttgtggaa tgaaattaaa agaagggtgat 1560  
 ttgtttgtta aagttttatc gggttaaagaa aatccttatt ttttgattgt ttctgaaaaa 1620  
 gggataggaa aaagggttaa catgtctaaa atatctgagc ttaaaagagg agccactggt 1680  
 tatactagtt ataaaaaatc tgataaaaaa gcgggtagtg ttgttgatgc tatagcagtt 1740  
 tcagaggatg atgaaatctt gcttgtaagt aaacgttcaa aagctttaag aacagtagct 1800  
 ggaaaagtat ctgaacaagg caaagatgct agaggaattc aagtattatt tcttgataat 1860  
 gacagcttgg tttctgtttc aaaatttatt aaataa 1896

<210> 133  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 133  
 Met Phe Ala Leu Ile Arg Lys Ile Phe Met Ile Tyr Phe Leu Cys Ile  
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 Thr Leu Ala Gly Phe Ala Met Ile Phe Ile Asp Ser Lys Phe Thr Glu  
 20 25 30  
 Gln Pro Asn Val Lys Glu Asn Gln Ser Lys Ile Asn Gln His Thr Ile  
 35 40 45  
 Glu Pro Asn Leu Ile Met Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly  
 50 55 60  
 Val Tyr Val Gly Ile Trp Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr  
 65 70 75 80  
 Leu Asn Trp Gly Asn Leu Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile  
 85 90 95  
 Ile Thr Val Tyr Ser Lys Ser His Ser  
 100 105

<210> 134  
 <211> 83  
 <212> PRT  
 <213> Homo sapiens

<400> 134  
 Met Ile Phe Ile Asp Ser Lys Phe Thr Glu Gln Pro Asn Val Lys Glu  
 1 5 10 15

Asn Gln Ser Lys Ile Asn Gln His Thr Ile Glu Pro Asn Leu Ile Met  
                   20                                  25                                  30  
 Phe Thr Ser Ser Ile Gly Gly Phe Leu Gly Val Tyr Val Gly Ile Trp  
                   35                                  40                                  45  
 Ile Phe Asn Tyr Asp Lys Ser Asn Phe Tyr Leu Asn Trp Gly Asn Leu  
           50                                  55                                  60  
 Ile Ile Leu Ile Tyr Asn Ile Ala Leu Ile Ile Thr Val Tyr Ser Lys  
       65                                  70                                  75                                  80  
 Ser His Ser

<210> 135  
 <211> 318  
 <212> DNA  
 <213> Homo sapiens

<400> 135  
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 tttgccatga tttttattga cagcaaattt accgaacagc ctaatgttaa agaaaatcaa 120  
 agcaaaatta atcaacatac aattgaaccc aatttaatac tgtttacatc ttctatagga 180  
 ggatttttag gtgtttatgt tggaatttgg atctttaact atgacaaaag caatttttac 240  
 ctaaattggg gaaatttaata aatattaata tacaacatag ccctaattat cactgtatac 300  
 tcaaaatcac atagtttag 318

<210> 136  
 <211> 252  
 <212> DNA  
 <213> Homo sapiens

<400> 136  
 atgatttttta ttgacagcaa atttaccgaa cagcctaattg ttaaagaaaa tcaaagcaaa 60  
 attaatacaac atacaattga acccaattta atcatgttta catcttctat aggaggattt 120  
 ttaggtgttt atgttggaat ttggatcttt aactatgaca aaagcaattt ttacctaaat 180  
 tggggaaatt taataatatt aatatacaac atagccctaa ttatcactgt atactcaaaa 240  
 tcacatagtt ag 252

<210> 137  
 <211> 209  
 <212> PRT  
 <213> Homo sapiens

<400> 137  
 Met Lys Lys Thr Pro Asn Thr Cys Ile Phe Leu Thr Leu Leu Ile Ile  
   1                                  5                                  10                                  15  
 Ser Asn Leu Asn Ala Leu Ala Asn Glu Gly Asn Thr Asn Glu Lys  
                   20                                  25                                  30  
 Asn Asp Gln Pro Lys Gln Ile Ser Asn Phe Phe Ser Pro Glu Arg Gly  
           35                                  40                                  45  
 Phe Ile Tyr Ser Thr Gly Ile Gly Ile Gly Val Gly Phe Phe Leu Asn  
       50                                  55                                  60  
 Ser Asn Ile Lys His Leu Ile Phe Arg Pro Tyr Tyr Thr Phe Ser Asn  
       65                                  70                                  75                                  80



Asn Thr Phe Asp Phe Leu Ile Val Ala Met Ile Leu Thr Arg Glu Ser  
                                     85                                    90                                    95  
 Leu Asn Ile Pro Lys Lys Met Gln Tyr Phe Lys Ser Tyr Ile Gly Gly  
                                     100                                    105                                    110  
 Gly Ile Asn Trp His Ile Ala Asn Leu Ile Lys Lys Thr Lys Tyr Phe  
                                     115                                    120                                    125  
 Ser Ala Thr Ile Gly Ile Gly Gly Arg Phe Tyr Leu Ser Thr Asn Phe  
                                     130                                    135                                    140  
 Ile Glu Asp Ile Arg Phe Tyr Glu Lys Leu Pro Tyr Val Ile Glu Pro  
                                     145                                    150                                    155                                    160  
 Tyr Met Phe Ile Glu Ile Ser Ser Lys Lys Ala Ile Pro Leu Met Gly  
                                     165                                    170                                    175  
 Leu Asp Phe Lys Ile Asp Phe Leu Phe Leu Asp Thr Phe Asn Ile Ser  
                                     180                                    185                                    190  
 Phe Asn Phe Thr Ile Arg Tyr Asn Phe Lys Asp Lys Asn Glu Met Glu  
                                     195                                    200                                    205

Thr

<210> 138  
 <211> 186  
 <212> PRT  
 <213> Homo sapiens

<400> 138  
 Asn Glu Glu Gly Asn Thr Asn Glu Lys Asn Asp Gln Pro Lys Gln Ile  
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 Ser Asn Phe Phe Ser Pro Glu Arg Gly Phe Ile Tyr Ser Thr Gly Ile  
                                     20                                    25                                    30  
 Gly Ile Gly Val Gly Phe Phe Leu Asn Ser Asn Ile Lys His Leu Ile  
                                     35                                    40                                    45  
 Phe Arg Pro Tyr Tyr Thr Phe Ser Asn Asn Thr Phe Asp Phe Leu Ile  
                                     50                                    55                                    60  
 Val Ala Met Ile Leu Thr Arg Glu Ser Leu Asn Ile Pro Lys Lys Met  
                                     65                                    70                                    75                                    80  
 Gln Tyr Phe Lys Ser Tyr Ile Gly Gly Gly Ile Asn Trp His Ile Ala  
                                     85                                    90                                    95  
 Asn Leu Ile Lys Lys Thr Lys Tyr Phe Ser Ala Thr Ile Gly Ile Gly  
                                     100                                    105                                    110  
 Gly Arg Phe Tyr Leu Ser Thr Asn Phe Ile Glu Asp Ile Arg Phe Tyr  
                                     115                                    120                                    125  
 Glu Lys Leu Pro Tyr Val Ile Glu Pro Tyr Met Phe Ile Glu Ile Ser  
                                     130                                    135                                    140

Ser Lys Lys Ala Ile Pro Leu Met Gly Leu Asp Phe Lys Ile Asp Phe  
 145 150 155 160

Leu Phe Leu Asp Thr Phe Asn Ile Ser Phe Asn Phe Thr Ile Arg Tyr  
 165 170 175

Asn Phe Lys Asp Lys Asn Glu Met Glu Thr  
 180 185

<210> 139  
 <211> 630  
 <212> DNA  
 <213> Homo sapiens

<400> 139  
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 gcacttgcaa atgaagaagg caatacta atcaacccaa acaaattctc 120  
 aattttttta gccagaaaagg aggggttcata tattcaacag gaattgggat tggagttgga 180  
 ttttttctaa attcaaatat taaacacctt atcttttagac cttattatac attctcta 240  
 aatacttttg attttttaat cgttgctatg atattaacaa gggaaagcct taatatcccc 300  
 aaaaaaatgc aatactttta atcttatatt ggaggaggaa taaactggca cattgcaaac 360  
 ttaattaaaa aaacaaaata tttttccgcc accattggca taggtggctg tttttaccta 420  
 tctacaaact ttatagaaga cattcgattt tacgaaaaat tgccttatgt aatagagcct 480  
 tatatgttta ttgaaatttc ttctaataaagg gcaattcctt taatgggggt agactttaaa 540  
 attgattttt tatttttaga tacatttaac atttctttta attttactat tagatataat 600  
 ttttaaggaca aaaacgagat ggaaacatga 630

<210> 140  
 <211> 561  
 <212> DNA  
 <213> Homo sapiens

<400> 140  
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 agcccagaaa gagggttcat atattcaaca ggaattggga ttggagttgg attttttcta 120  
 aattcaaata ttaaacacct tatcttttaga cttattata cattctctaa taatactttt 180  
 gattttttta tcgttgctat gatattaaca agggaaagcc ttaatatccc caaaaaaatg 240  
 caatacttta aatcttatat tggaggagga ataaactggc acattgcaaa cttaattaaa 300  
 aaaaacaaaat atttttccgc caccattggc ataggtgggc gtttttacct atctacaaac 360  
 tttatagaag acattcgatt ttacgaaaaa ttgccttatg taatagagcc ttatatgttt 420  
 attgaaattt cttctaataa ggcaattcct ttaatggggt tagactttta aattgatttt 480  
 ttatttttag atacatttaa catttctttt aatttttact ttagatataa ttttaaggac 540  
 aaaaacgaga tggaaacatg a 561

<210> 141  
 <211> 328  
 <212> PRT  
 <213> Homo sapiens

<400> 141  
 Met Ile Pro Val Val Ala Ser Gly Gly Ile Leu Ile-Ala Leu Ser Ile  
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Ala Phe Val Gly Ile Gly Pro Asp Gly Pro Asn Phe Ala Glu His Pro  
 20 25 30

Phe Tyr Lys Gln Ile Ala Asp Ile Gly Ser Ile Ala Phe Gly Met Met  
 35 40 45

Leu Pro Val Leu Ala Gly Phe Ile Ala Met Ala Ile Ala Asp Lys Pro  
 50 55 60  
 Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly Asn Val Lys  
 65 70 75 80  
 Ala Gly Phe Leu Gly Ala Ile Phe Ala Gly Phe Leu Ala Gly Tyr Val  
 85 90 95  
 Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu Arg Pro Val  
 100 105 110  
 Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile Val Gly Phe  
 115 120 125  
 Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met Gly Val Leu  
 130 135 140  
 Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr Phe Gly Val  
 145 150 155 160  
 Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met Ile Thr Val  
 165 170 175  
 Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe Gly Val Gly  
 180 185 190  
 Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala Ala Ala Ile  
 195 200 205  
 Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu Ala Pro Lys  
 210 215 220  
 Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala Phe Leu Ile  
 225 230 235 240  
 Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala Ala Ser Asp  
 245 250 255  
 Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala Val Ser Ser  
 260 265 270  
 Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro His Gly Gly  
 275 280 285  
 Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe Ile Ile Ala  
 290 295 300  
 Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile Phe Leu Lys  
 305 310 315 320  
 Ser Leu Lys Leu Lys Glu Ser Glu  
 325

<210> 142

<211> 267

<212> PRT

<213> Homo sapiens

<400> 142

Asp Lys Pro Gly Leu Thr Pro Gly Leu Val Gly Gly Val Met Ser Gly  
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 Gly Tyr Val Ala Arg Phe Leu Ala Arg Arg Ser Val Pro Glu Trp Leu  
 35 40 45  
 Arg Pro Val Met Pro Ile Phe Val Ile Pro Leu Ile Ser Thr Ile Ile  
 50 55 60  
 Val Gly Phe Phe Met Leu Tyr Phe Gly Val Tyr Ile Gly Lys Phe Met  
 65 70 75 80  
 Gly Val Leu Glu Ser Gly Leu Lys Ser Leu Gln Ser Asn Ser Glu Thr  
 85 90 95  
 Phe Gly Val Leu Gly Lys Ile Phe Leu Gly Leu Val Leu Gly Ser Met  
 100 105 110  
 Ile Thr Val Asp Met Gly Gly Pro Phe Asn Lys Val Ala Phe Leu Phe  
 115 120 125  
 Gly Val Gly Leu Ile Pro Gln Val Pro Glu Ile Met Gly Met Val Ala  
 130 135 140  
 Ala Ala Ile Pro Val Pro Pro Met Ala Met Gly Leu Ala Thr Phe Leu  
 145 150 155 160  
 Ala Pro Lys Leu Phe Glu Asn Glu Glu Lys Glu Ser Gly Lys Ile Ala  
 165 170 175  
 Phe Leu Ile Ser Phe Ile Gly Ile Ser Glu Gly Ala Ile Pro Phe Ala  
 180 185 190  
 Ala Ser Asp Pro Gly Arg Val Ile Pro Ser Ile Val Val Gly Gly Ala  
 195 200 205  
 Val Ser Ser Ile Ile Ala Ala Phe Leu Gly Val Ala Asn His Ala Pro  
 210 215 220  
 His Gly Gly Pro Ile Val Leu Pro Val Ile Asp Asn Lys Phe Gly Phe  
 225 230 235 240  
 Ile Ile Ala Ile Ala Val Gly Val Ala Val Ala Thr Ala Leu Val Ile  
 245 250 255  
 Phe Leu Lys Ser Leu Lys Leu Lys Glu Ser Glu  
 260 265

<210> 143

<211> 987

<212> DNA

<213> Homo sapiens

<400> 143

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 ggttctatag cttttgggat gatgttgccc gtgcttgctg gttttattgc aatggcaatt 180

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gctgataagc ctgggtcttac ccccggtctt gttgggtggag taatgtctgg gaatgtaaaa 240
gcaggtttct tgggcgcaat atttgcgggc tttcttgtag gttatgttgc aagggttttta 300
gcaagaagat ctgttcctga gtggttaaga cctgtaatgc ctatatattgt aattccgcta 360
ataagcacca ttattgtcgg cttttttatg ctgtattttg gtgtttatat tggaaaattt 420
atgggggtgc ttgagagtgg gcttaaactt ttacagagta attcggaaac ttttggcggtg 480
ttgggtaaaa ttttcttagg cttagtacta ggttcaatga ttactgttga tatgggcgga 540
ccttttaata aagtggcatt tctttttggt gtagggctaa ttcctcaagt gccagaaata 600
atgggaatgg tagcagcagc aattcctggt cctcctatgg ctatggggct tgcaaccttt 660
ttagcaccta aattgtttga aaatgaagaa aaagaatctg gtaaaatagc ctttttaatt 720
tcatttattg gtattagcga aggagctatt ctttttgctg ctagtgatcc cggacgggta 780
atcccttcga tagtggtagg gggagctgta tcaagcatta ttgccgcttt tttaggcggt 840
gctaatacatg ctccacacgg aggaccaata gtacttcctg ttattgataa taaatttggtg 900
tttattattg caattgctgt tggagtgtcg gttgcaacag ctttggtaat ttttttgaaa 960
tctttaaaat taaaggaatc tgaatga
987

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<210> 144

<211> 804

<212> DNA

<213> Homo sapiens

<400> 144

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agaagatctg ttcttgagtg gttaagacct gtaatgccta tatttgtaat tccgctaata 180
agcaccatta ttgtcggcct ttttatgctg tattttgggt tttatattgg aaaatttatg 240
ggggtgcttg agagtgggct taaatcttta cagagtaatt cggaaacttt tggcggtgtg 300
ggtaaaattt tcttaggctt agtactaggt tcaatgatta ctggtgatat gggcggaact 360
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ggaatggtag cagcagcaat tctgttcct cctatggcta tggggcttgc aaccttttta 480
gcacctaaat tgtttgaaaa tgaagaaaaa gaatctggta aaatagcctt tttaatttca 540
tttattggta ttagegaagg agctattcct tttgctgcta gtgatcccg acgggtaatc 600
ccttcgatag tggtaggggg agctgtatca agcattattg ccgctttttt aggcgttgct 660
aatcatgctc cacacggagg accaatagta cttcctgtta ttgataataa atttgggttt 720
attattgcaa ttgctgttgg agttgcgggt gcaacagctt tggaatttt tttgaaatct 780
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804

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<210> 145

<211> 203

<212> PRT

<213> Homo sapiens

<400> 145

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Met Ile Lys Ile Phe Lys Lys Ile Tyr Ile Leu Thr Leu Val Leu Gly
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Met Ala His Leu Ser Phe Ala Ser Asp Asn Tyr Met Val Arg Cys Ser
      20             25            30

Lys Glu Glu Asp Ser Thr Thr Cys Ile Ala Lys Leu Lys Glu Ile Lys
 35             40            45

Glu Lys Lys Asn Tyr Asp Leu Phe Ser Met Gly Ile Gly Ile Gly Asp
 50             55            60

Pro Ile Ala Asn Ile Met Ile Thr Ile Pro Tyr Ile Asn Ile Asp Phe
 65             70            75            80

Gly Tyr Gly Gly Phe Ile Gly Leu Lys Ser Asn Asn Phe Glu Asn Tyr
      85             90            95

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Leu Asn Gly Gly Ile Asp Val Ile Phe Lys Lys Gln Ile Gly Gln Tyr  
 100 105 110  
 Met Lys Ile Gly Gly Gly Ile Gly Ile Gly Ala Asp Trp Ser Lys Thr  
 115 120 125  
 Ser Leu Ile Pro Pro Asn Glu Glu Glu Thr Asp Tyr Glu Arg Ile  
 130 135 140  
 Gly Ala Val Ile Arg Ile Pro Phe Ile Met Glu Tyr Asn Phe Ala Lys  
 145 150 155 160  
 Asn Leu Ser Ile Gly Phe Lys Ile Tyr Pro Ala Val Gly Pro Thr Ile  
 165 170 175  
 Leu Leu Thr Lys Pro Ser Ile Leu Phe Glu Gly Ile Lys Phe Asn Phe  
 180 185 190  
 Phe Gly Phe Gly Phe Ile Lys Phe Ala Phe Asn  
 195 200

<210> 146  
 <211> 179  
 <212> PRT  
 <213> Homo sapiens

<400> 146  
 Asp Asn Tyr Met Val Arg Cys Ser Lys Glu Glu Asp Ser Thr Thr Cys  
 1 5 10 15  
 Ile Ala Lys Leu Lys Glu Ile Lys Glu Lys Lys Asn Tyr Asp Leu Phe  
 20 25 30  
 Ser Met Gly Ile Gly Ile Gly Asp Pro Ile Ala Asn Ile Met Ile Thr  
 35 40 45  
 Ile Pro Tyr Ile Asn Ile Asp Phe Gly Tyr Gly Gly Phe Ile Gly Leu  
 50 55 60  
 Lys Ser Asn Asn Phe Glu Asn Tyr Leu Asn Gly Gly Ile Asp Val Ile  
 65 70 75 80  
 Phe Lys Lys Gln Ile Gly Gln Tyr Met Lys Ile Gly Gly Gly Ile Gly  
 85 90 95  
 Ile Gly Ala Asp Trp Ser Lys Thr Ser Leu Ile Pro Pro Asn Glu Glu  
 100 105 110  
 Glu Glu Thr Asp Tyr Glu Arg Ile Gly Ala Val Ile Arg Ile Pro Phe  
 115 120 125  
 Ile Met Glu Tyr Asn Phe Ala Lys Asn Leu Ser Ile Gly Phe Lys Ile  
 130 135 140  
 Tyr Pro Ala Val Gly Pro Thr Ile Leu Leu Thr Lys Pro Ser Ile Leu  
 145 150 155 160  
 Phe Glu Gly Ile Lys Phe Asn Phe Phe Gly Phe Gly Phe Ile Lys Phe  
 165 170 175

Ala Phe Asn

<210> 147  
<211> 612  
<212> DNA  
<213> Homo sapiens

<400> 147  
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tcttttgcac ctgacaatta tatgggtcaga tgcagcaagg aagaagattc aaccacctgt 120  
atcgcaaagc ttaaagaaat aaaagaaaag aaaaattatg acttattttc aatgggcatt 180  
ggaataggag atcctattgc aaatattatg attacaattc cttatataaa tattgatttt 240  
ggatatggag gttttattgg ccttaagtca aacaattttg aaaattatct aaatgggtgga 300  
atagacgtta tttttaaaaa gcaaattgga caatatatga aaattggcgg cggcattgga 360  
ataggtgcgg attggtcaaa aacatccctt atacccccta atgaagaaga agaaactgat 420  
tatgagagaa taggcgctgt tataagaatt ccttttataa tggaatataa ttttgcaaaa 480  
aatttatcca taggattcaa aatttatcct gcagtagggc caacaatatt actaacaaaa 540  
ccaagcattt tatttgaagg aattaaattc aatttttttg gatttggatt cataaaattt 600  
gcatttaatt aa 612

<210> 148  
<211> 540  
<212> DNA  
<213> Homo sapiens

<400> 148  
gacaattata tggtcagatg cagcaaggaa gaagattcaa ccacctgtat cgcaaagctt 60  
aaagaaataa aagaaaagaa aaattatgac ttattttcaa tgggcattgg aataggagat 120  
cctattgcaa atattatgat tacaattcct tatataaata ttgattttgg atatggagggt 180  
tttattggcc ttaagtcaaa caattttgaa aattatctaa atgggtggaat agacgttatt 240  
tttaaaaagc aaattggaca atatatgaaa attggcggcg gcattggaat aggtgcggat 300  
tgggtcaaaaa catcccttat accccctaata gaagaagaag aaactgatta tgagagaata 360  
ggcgctgtta taagaattcc ttttataatg gaatataatt ttgcaaaaaa tttatccata 420  
ggattcaaaa tttatcctgc agtagggcca acaatattac taacaaaacc aagcatttta 480  
tttgaaggaa ttaaattcaa tttttttgga tttggattca taaaatttgc atttaattaa 540

<210> 149  
<211> 203  
<212> PRT  
<213> Homo sapiens

<400> 149  
Met Arg Met Leu Leu Ala Thr Ile Ile Leu Ile Leu Thr Thr Gly Leu  
1 5 10 15  
Leu Ala Ala Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp  
20 25 30  
Phe Asp Lys Leu Leu Ala Lys Glu Glu Ser Val Arg Arg Leu Phe Gly  
35 40 45  
Ile Gly Phe Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val  
50 55 60  
Pro Tyr Val Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys  
65 70 75 80  
Pro Asn Asn Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe  
85 90 95

Lys Asp Glu Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile  
 100 105 110  
 Gly Ala Asp Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu  
 115 120 125  
 Glu Glu Glu Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn  
 130 135 140  
 Arg Ile Gly Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe  
 145 150 155 160  
 Leu Lys Asn Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr  
 165 170 175  
 Thr Met Leu Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn  
 180 185 190  
 Phe Leu Gly Thr Gly Phe Ile Lys Ile Tyr Ile  
 195 200

<210> 150  
 <211> 184  
 <212> PRT  
 <213> Homo sapiens

<400> 150  
 Gln Ser Lys Ser Lys Ser Met Thr Glu Asp Asp Phe Asp Phe Asp Lys  
 1 5 10 15  
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 20 25 30  
 Gly Val Gly Tyr Pro Leu Ala Asn Ile Thr Ile Ser Val Pro Tyr Val  
 35 40 45  
 Asp Ile Asp Leu Gly Tyr Gly Gly Phe Val Gly Leu Lys Pro Asn Asn  
 50 55 60  
 Phe Leu Pro Tyr Val Val Met Gly Val Asp Leu Leu Phe Lys Asp Glu  
 65 70 75 80  
 Ile His Lys Asn Thr Met Ile Ser Gly Gly Ile Gly Ile Gly Ala Asp  
 85 90 95  
 Trp Ser Lys Gly Ser Pro Glu Lys Ser Asn Glu Lys Leu Glu Glu Glu  
 100 105 110  
 Glu Glu Asn Glu Ala Gln Gln Val Ala Ser Leu Gln Asn Arg Ile Gly  
 115 120 125  
 Val Val Ile Arg Leu Pro Leu Val Ile Glu Tyr Ser Phe Leu Lys Asn  
 130 135 140  
 Ile Val Ile Gly Phe Lys Ala Val Ala Thr Ile Gly Thr Thr Met Leu  
 145 150 155 160  
 Leu Gly Ser Pro Met Ser Phe Glu Gly Ala Arg Phe Asn Phe Leu Gly  
 165 170 175



Thr Gly Phe Ile Lys Ile Tyr Ile  
180

<210> 151  
<211> 612  
<212> DNA  
<213> Homo sapiens

<400> 151  
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tccaaaagca aaagtatgac tgaagatgac tttgattttg ataaacttct tgcaaaagaa 120  
gagtctgtgc gccgtttatt tggcataggt tttggagttg gatatccact tgcaaacatt 180  
acaatatctg ttccatatgt agacatagac cttgggtacg gaggattcgt agggtttaa 240  
cccaacaatt tcttgcccta tgttgtgatg ggtgtagatc ttctatttaa agatgaaata 300  
cacaaaaaca ctatgatttc tggaggcatt ggaatagggt cagattgggtc aaaaggaagt 360  
cctgaaaaat caaatgaaaa acttgaagaa gaggaagaaa atgaagcaca acaagtagct 420  
tctcttcaaa atagaatagg ggttgtgata agattgcctt tggtaataga gtacagcttt 480  
cttaaaaata ttgtgattgg atttaaagct gttgctacta ttggaacaac tatgctactt 540  
ggcagcccaa tgtcatttga aggagctaga tttaatttct taggcacagg ctttataaaa 600  
atatatatat ag 612

<210> 152  
<211> 555  
<212> DNA  
<213> Homo sapiens

<400> 152  
caatccaaaa gcaaaagtat gactgaagat gactttgatt ttgataaact tcttgcaaaa 60  
gaagagtctg tgcgccgttt atttggcata gggtttggag ttggatatcc acttgcaaac 120  
attacaatat ctgttccata tgtagacata gaccttgggt acggaggatt cgtagggtctt 180  
aaacccaaca atttcttgcc ctatgttgtg atgggtgtag atcttctatt taaagatgaa 240  
atacacaaaa acactatgat ttctggaggc attggaatag gtgcagattg gtcaaaagga 300  
agtcctgaaa aatcaaatga aaaacttgaa gaagaggaag aaaatgaagc acaacaagta 360  
gcttctcttc aaaatagaat aggggttgtg ataagattgc ctttggtaat agagtacagc 420  
tttcttaaaa atattgtgat tggattttaa gctgttgcta ctattggaac aactatgcta 480  
cttggcagcc caatgtcatt tgaaggagct agatttaatt tcttaggcac aggctttata 540  
aaaatatata tatag 555

<210> 153  
<211> 400  
<212> PRT  
<213> Homo sapiens

<400> 153  
Met Asn Ile Lys Ile Asn Phe Phe Phe Thr Leu Pro Ile Gly Ile Phe  
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20 25 30  
Phe Ile Arg Leu Ser Tyr Leu Ser Leu Ile Pro Phe Leu Ile Phe Ser  
35 40 45  
Ile Pro Leu Gly Ile Glu Asn Ile Ile Glu Asn Lys Asn Phe Lys Lys  
50 55 60  
Leu Phe Gly Lys Thr Ile Tyr Tyr Gly Ile Leu Thr Asn Leu Ser Gly  
65 70 75 80

Val Ala Val Ser Ile Ile Ala Ala Thr Ile Tyr Leu Pro Gln Arg Ile  
85 90 95  
Pro Ile Leu Glu Lys Thr Ile Gln Asn Thr Cys Phe Phe Glu Lys Glu  
100 105 110  
Ala Leu Leu Glu Thr Phe Phe Pro Lys Asn Ile Phe Lys Ile Phe Thr  
115 120 125  
Ser Ser Asn Pro Asn Leu Leu Ser Ile Tyr Met Ile Ser Ile Ile Ile  
130 135 140  
Gly Thr Ser Phe Tyr Tyr Ala Lys Gln Lys Gly Arg Ile Ala Arg Glu  
145 150 155 160  
Leu Met Leu Ser Ala Ser Asn Leu Phe Tyr His Ala Asn Gly Phe Ile  
165 170 175  
Val Asn Ile Leu Asn Ile Gly Ile Ile Phe Ile Thr Ala Asn Tyr Ala  
180 185 190  
Ala Asn Leu Lys Asn Phe Lys Asp Tyr Pro Asn Tyr Thr Asn Ser Ile  
195 200 205  
Thr Phe Phe Leu Ala Trp Thr Ile Ile Ile Leu Phe Val Ile Leu Pro  
210 215 220  
Thr Ile Ser Tyr Arg Leu Thr Lys Ser Phe Lys Met Ile Tyr Lys Gly  
225 230 235 240  
Ile Phe Val Ser Phe Gln Asn Ile Ile Phe Ser Gly Leu Ala Lys Asp  
245 250 255  
Ser Tyr Ser Pro Tyr Val Ile Leu Ile Glu Asp Ile Lys Asn Glu Arg  
260 265 270  
Ile Asn Ile Lys Lys Ser Ile Ile Ile Asn Ile Pro Leu Ile Asn Phe  
275 280 285  
Val Ser Lys Phe Gly Thr Ile Phe Val Ser Val Ile Ser Phe Phe Ile  
290 295 300  
Ile Leu Lys Ser Tyr Ser Ser Leu Pro Ile Ser Ile Tyr Glu Ile Ser  
305 310 315 320  
Tyr Met Ser Thr Leu Ser Phe Val Phe Val Phe Ala Phe Pro His Ile  
325 330 335  
Pro Asn Ser Leu Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr  
340 345 350  
Lys Gly Ile Glu Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile  
355 360 365  
Leu Ile Ser Leu Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile  
370 375 380  
Ile His Ile Ile Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn  
385 390 395 400

<210> 154  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 154

Ile	Glu	Asn	Ile	Ile	Glu	Asn	Lys	Asn	Phe	Lys	Lys	Leu	Phe	Gly	Lys	1	5	10	15
Thr	Ile	Tyr	Tyr	Gly	Ile	Leu	Thr	Asn	Leu	Ser	Gly	Val	Ala	Val	Ser	20	25	30	
Ile	Ile	Ala	Ala	Thr	Ile	Tyr	Leu	Pro	Gln	Arg	Ile	Pro	Ile	Leu	Glu	35	40	45	
Lys	Thr	Ile	Gln	Asn	Thr	Cys	Phe	Phe	Glu	Lys	Glu	Ala	Leu	Leu	Glu	50	55	60	
Thr	Phe	Phe	Pro	Lys	Asn	Ile	Phe	Lys	Ile	Phe	Thr	Ser	Ser	Asn	Pro	65	70	75	80
Asn	Leu	Leu	Ser	Ile	Tyr	Met	Ile	Ser	Ile	Ile	Ile	Gly	Thr	Ser	Phe	85	90	95	
Tyr	Tyr	Ala	Lys	Gln	Lys	Gly	Arg	Ile	Ala	Arg	Glu	Leu	Met	Leu	Ser	100	105	110	
Ala	Ser	Asn	Leu	Phe	Tyr	His	Ala	Asn	Gly	Phe	Ile	Val	Asn	Ile	Leu	115	120	125	
Asn	Ile	Gly	Ile	Ile	Phe	Ile	Thr	Ala	Asn	Tyr	Ala	Ala	Asn	Leu	Lys	130	135	140	
Asn	Phe	Lys	Asp	Tyr	Pro	Asn	Tyr	Thr	Asn	Ser	Ile	Thr	Phe	Phe	Leu	145	150	155	160
Ala	Trp	Thr	Ile	Ile	Ile	Leu	Phe	Val	Ile	Leu	Pro	Thr	Ile	Ser	Tyr	165	170	175	
Arg	Leu	Thr	Lys	Ser	Phe	Lys	Met	Ile	Tyr	Lys	Gly	Ile	Phe	Val	Ser	180	185	190	
Phe	Gln	Asn	Ile	Ile	Phe	Ser	Gly	Leu	Ala	Lys	Asp	Ser	Tyr	Ser	Pro	195	200	205	
Tyr	Val	Ile	Leu	Ile	Glu	Asp	Ile	Lys	Asn	Glu	Arg	Ile	Asn	Ile	Lys	210	215	220	
Lys	Ser	Ile	Ile	Ile	Asn	Ile	Pro	Leu	Ile	Asn	Phe	Val	Ser	Lys	Phe	225	230	235	240
Gly	Thr	Ile	Phe	Val	Ser	Val	Ile	Ser	Phe	Phe	Ile	Ile	Leu	Lys	Ser	245	250	255	
Tyr	Ser	Ser	Leu	Pro	Ile	Ser	Ile	Tyr	Glu	Ile	Ser	Tyr	Met	Ser	Thr	260	265	270	
Leu	Ser	Phe	Val	Phe	Val	Phe	Ala	Phe	Pro	His	Ile	Pro	Asn	Ser	Leu	275	280	285	

Ile Tyr Ile Ile Thr Met Leu Cys Ser Thr Tyr Thr Lys Gly Ile Glu  
290 295 300

Leu Asn Val Ser Asn Ile Thr Pro Met Leu Pro Ile Leu Ile Ser Leu  
305 310 315 320

Ala Leu Leu Ile Asp Phe Ala Phe Asn Ile Ala Ile Ile His Ile Ile  
325 330 335

Asn Phe Lys Glu Leu Lys Asp Gln Glu Lys Ile Asn  
340 345

<210> 155  
<211> 1203  
<212> DNA  
<213> Homo sapiens

<400> 155  
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ttccctcttg gaatttatag ctcccttatca catgctttta taagattatc atacttatct 120  
cttattccct ttttaatat ttcaattcca ttaggaattg aaaatattat tgaaaataaa 180  
aacttttaaaa agcttttttg taaaacaatt tattatggaa ttttaactaa cctatctgga 240  
gttgctgtat caataatagc tgcaacaata tatcttccgc aaagaattcc aatactagaa 300  
aaaacaatac aaaatacatg tttttttgaa aaagaagctt tactagaaac attctttcca 360  
aaaaatattt tcaaaatatt tacatctagc aatccaaatc tactaagcat ttacatgatt 420  
tcaataataa taggcacaag tttttattat gcaaaacaaa aaggcagaat agctagagaa 480  
ctgatgctaa gcgcatccaa tcttttttac catgcaaagtg ggtttattgt aaacatatta 540  
aatatagga tcatttttat aacagcaaat tacgctgcaa acttaaaaaa cttcaaagat 600  
tacccaaatt atacaaacag cataacattc tttttggcat ggacaattat aattttattc 660  
gtaatatgtc caacaattag ttatagatta acaaaaagtt ttaaaatgat atataaaggc 720  
atttttgtat catttcaaaa cataatat ttctaggactg caaaagattc ttattccct 780  
tatgtgatat taatagaaga tattaaaaaa gaaagaataa atataaaaaa atccataatt 840  
ataaacatac ctttaataaa ttttgatatc aaatttggca ctatttttgt ttcagtaata 900  
tcatttttta taatttttaa atcatattc agcttaccct tttctattta tgaaataagc 960  
tatatgagca ctttatcatt tgtttttgtc ttgcatcttc ctcataacc aaatagttta 1020  
atztatataa ttacaatgct ttgctctaca tatacaaaag gaatagagct aaatgtttca 1080  
aacataacac caatgctgcc gatattaatc tctttggctt tactaatcga ctttgctttt 1140  
aacattgcaa tcattcatat aataaacttc aaagaattaa aagatcaaga aaaaattaat 1200  
taa 1203

<210> 156  
<211> 1047  
<212> DNA  
<213> Homo sapiens

<400> 156  
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ccgcaaagaa ttccaatact agaaaaaaca atacaaaata catgtttttt tgaaaaagaa 180  
gctttactag aaacattctt tccaaaaaat attttcaaaa tatttacatc tagcaatcca 240  
aatctactaa gcattttacat gatttcaata ataataaggca caagttttta ttatgcaaaa 300  
caaaaaggca gaatagctag agaactgatg ctaagcgcac ccaatctttt ttaccatgca 360  
aatgggttta ttgtaaacat attaaatata gggatcattt ttataacagc aaattacgct 420  
gcaaaactta aaaacttcaa agattaccca aattatacaa acagcataac attctttttg 480  
gcatggacaa ttataatttt attcgtaata ttgccaacaa ttagttatag attaacaaaa 540  
agttttaaaa tgatatataa aggcattttt gtatcatttc aaaacataat attttcagga 600  
cttgcaaaag attcttattc cccttatgtg atattaatag aagatattaa aaacgaaaga 660  
ataaatataa aaaaatccat aattataaac atacctttaa taaattttgt atctaaattt 720  
ggcactattt ttgtttcagt aatatcattt tttataattt taaaatcata ttctagctta 780  
cccatttcta tttatgaaat aagctatatg agcactttat catttgtttt tgtctttgca 840

tttcttcata taccaaatag tttaatttat ataattacaa tgctttgctc tacatataca 900  
aaaggaatag agctaaatgt ttcaaacata acaccaatgc tgccgatatt aatctctttg 960  
gctttactaa tcgactttgc tttaacatt gcaatcattc atataataaa cttcaaagaa 1020  
ttaaaagatc aagaaaaaat taattaa 1047

<210> 157  
<211> 219  
<212> PRT  
<213> Homo sapiens

<400> 157  
Met Lys Lys Glu Phe Ile Met Leu Leu Leu Leu Leu Gln Thr Ile Met  
1 5 10 15  
Asn Leu Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu  
20 25 30  
Leu Gln Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp  
35 40 45  
Lys Asp Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys  
50 55 60  
Glu Ile Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile  
65 70 75 80  
Ser Val Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu  
85 90 95  
Gly Ala Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser  
100 105 110  
Ile Ile Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly  
115 120 125  
Ile Ser Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp  
130 135 140  
Ala Ile Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser  
145 150 155 160  
Gly Ala Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln  
165 170 175  
Ala Ala Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys  
180 185 190  
Lys Lys Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu  
195 200 205  
Lys Asn Lys Glu Ile Val Arg Ile Leu Val Lys  
210 215

<210> 158  
<211> 201  
<212> PRT  
<213> Homo sapiens

<400> 158  
Asn Ser Ile Asn Thr Asn Thr Ser Thr Ser Ile Val Lys Glu Leu Gln

1	5	10	15
Lys Asn Leu Tyr Ile Phe Asn Ser Lys Glu Tyr Gln Lys Asp Lys Asp	20	25	30
Thr Leu Asn Glu Phe Ile Asn Ser Ile Asn Ile Asn Asp Lys Glu Ile	35	40	45
Leu Gln Ser Leu Glu Lys Ile Lys Asn Glu Leu Phe Ile Ile Ser Val	50	55	60
Phe Phe Asn Asn Lys Lys Gly Ile Leu Ile Ala Leu Asn Leu Gly Ala	65	70	75
Glu Ile Asn Phe Lys Tyr Lys Ile Ser Pro Ile Ser Ile Ser Ile Ile	85	90	95
Asn Asn Glu Phe Glu Ile Thr Lys Ile Leu Ile Asp Tyr Gly Ile Ser	100	105	110
Leu Asn Gln Ile Asp Asp Thr Gly Tyr Ser Pro Ile Phe Trp Ala Ile	115	120	125
Tyr Thr Asn Asn Glu Lys Ile Phe Glu Phe Leu Lys Glu Ser Gly Ala	130	135	140
Asp Leu Ser Phe Thr Leu Lys Asn Arg Lys Thr Pro Met Gln Ala Ala	145	150	155
Ile Glu Thr Glu Asn Ile Lys Leu Ile Lys Ser Leu Glu Lys Lys Lys	165	170	175
Ile Tyr Ile Asp Asp Asn Phe Lys Lys Lys Leu Lys Lys Leu Lys Asn	180	185	190
Lys Glu Ile Val Arg Ile Leu Val Lys	195	200	

<210> 159

<211> 660

<212> DNA

<213> Homo sapiens

<400> 159

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aatagcaaag aatatcaaaa agataaagac actttaaatg aatttataaa ttcaataaat 180
ataaatgaca aagaaatctt acaaagttta gaaaaaatca aaaatgagct ttttataata 240
tctgtttttt tcaacaataa aaaagggatt ttaattgcac taaatcttgg agcagaaata 300
aacttttaaat ataaaatatc tccaatttca atttcaataa taaacaatga atttgaaatc 360
acaaaaatat tgatagatta cggaataagc cttaatcaaa tagatgatac aggttattct 420
ccaatatttt gggcaatata tactaataac gaaaaaatat ttgaattttt aaaagaaagc 480
ggagctgatt taagtttcac acttaaaaat agaaaaacac caatgcaagc cgcaatagaa 540
acagaaaaata taaaactaat taaatctctg gaaaagaaaa aaatttacat tgacgacaat 600
ttcaaaaaaa aacttaaaaa gcttaaaaac aaagaaatag ttcgaatttt agtaaaatag 660

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<210> 160

<211> 606

<212> DNA

<213> Homo sapiens

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ataaatataa atgacaaaga aatcttacia agtttagaaa aaatcaaaaa tgagcttttt 180  
ataatatctg tttttttcaa caataaaaaa gggattttta ttgcactaaa tcttggagca 240  
gaaataaaact ttaaataata aatatctcca atttcaattt caataataaa caatgaattt 300  
gaaatcacaa aaatattgat agattacgga ataagcctta atcaaataga tgatacaggt 360  
tattctccaa tttttgggc aatatatact aataacgaaa aaatatttga atthtttaaaa 420  
gaaagcggag ctgattttaag tttcacactt aaaaatagaa aaacaccaat gcaagccgca 480  
atagaaacag aaaatataaa actaattaaa tctctggaaa agaaaaaaat ttacattgac 540  
gacaatttca aaaaaaaact taaaaagctt aaaaacaaag aaatagttcg aatttttagta 600  
aatag 606

<210> 161  
<211> 178  
<212> PRT  
<213> Homo sapiens

<400> 161  
Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
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Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
20 25 30  
Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
35 40 45  
Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
50 55 60  
Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
65 70 75 80  
Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
85 90 95  
Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
100 105 110  
Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
115 120 125  
Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
130 135 140  
Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
145 150 155 160  
Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
165 170 175  
Ala Val

<210> 162  
<211> 163  
<212> PRT  
<213> Homo sapiens

<400> 162

Ser Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu  
1 5 10 15

Ser Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser  
20 25 30

Gly Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala  
35 40 45

Leu Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu  
50 55 60

Ile Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe  
65 70 75 80

Leu Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys  
85 90 95

Ile Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala  
100 105 110

Lys Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu  
115 120 125

Asp Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala  
130 135 140

Ile Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser  
145 150 155 160

Tyr Ala Val

<210> 163

<211> 537

<212> DNA

<213> Homo sapiens

<400> 163

atgacaaaaa atagaataat ttggcttttta gttccttatgg tgtcttctac ttttacagct 60  
acaattattt caaattatca aaattttaatg ttgtccttttag tggtttttagc taattttatt 120  
ccccttttaa tggatacttc aggcaatgcc ggctctcagg catctgcgct aataattcgt 180  
gagcttgctc ttggtactgt caaggtaaaa gattttttta aagtgttttt aaaggaaata 240  
tgtgttagca ttctagtggg agcaattctt gctagtgtta attttttaag aattgtcttt 300  
ttttagctc cacaccattc tgataagctg aaaatagctt ttgtagtttc atcttgcttg 360  
atggtaagtt tgacagtagc aaagatattg ggaggtcttt taccattgt tgctaaactt 420  
ttaaagttgg atccagcact tatggcaggc ctttaatatca ctacaattgc agatgctatt 480  
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<210> 164

<211> 492

<212> DNA

<213> Homo sapiens

<400> 164

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gcgctaataa ttcgtgagct tgctcttggt actgtcaagg taaaagattt ttttaaagtg 180



ttttttaaagg aaatatgtgt tagcattcta gtgggagcaa ttcttgctag tgtaatttt 240  
 ttaagaattg tcttttttgt agctccacac cattctgata agctgaaaat agcttttgta 300  
 gtttcatctt gcttgatggt aagtttgaca gtagcaaaga tattgggagg tcttttaccc 360  
 attgttgcta aacttttaaa gttggatcca gcacttatgg caggcccttt aatcactaca 420  
 attgcagatg ctattacttt aatagcttat tttaatatag caaatgggt tttagtttagc 480  
 tatgctgttt aa 492

<210> 165

<211> 178

<212> PRT

<213> Homo sapiens

<400> 165

Met Thr Lys Asn Arg Ile Ile Trp Leu Leu Val Leu Met Val Ser Ser  
 1 5 10 15

Thr Phe Thr Ala Thr Ile Ile Ser Asn Tyr Gln Asn Leu Met Leu Ser  
 20 25 30

Leu Val Val Leu Ala Asn Phe Ile Pro Leu Leu Met Asp Thr Ser Gly  
 35 40 45

Asn Ala Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu  
 50 55 60

Gly Thr Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile  
 65 70 75 80

Cys Val Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu  
 85 90 95

Arg Ile Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile  
 100 105 110

Ala Phe Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys  
 115 120 125

Ile Leu Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp  
 130 135 140

Pro Ala Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile  
 145 150 155 160

Thr Leu Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr  
 165 170 175

Ala Val

<210> 166

<211> 128

<212> PRT

<213> Homo sapiens

<400> 166

Gly Ser Gln Ala Ser Ala Leu Ile Ile Arg Glu Leu Ala Leu Gly Thr  
 1 5 10 15

Val Lys Val Lys Asp Phe Phe Lys Val Phe Leu Lys Glu Ile Cys Val  
 20 25 30

Ser Ile Leu Val Gly Ala Ile Leu Ala Ser Val Asn Phe Leu Arg Ile  
35 40 45

Val Phe Phe Val Ala Pro His His Ser Asp Lys Leu Lys Ile Ala Phe  
50 55 60

Val Val Ser Ser Cys Leu Met Val Ser Leu Thr Val Ala Lys Ile Leu  
65 70 75 80

Gly Gly Leu Leu Pro Ile Val Ala Lys Leu Leu Lys Leu Asp Pro Ala  
85 90 95

Leu Met Ala Gly Pro Leu Ile Thr Thr Ile Ala Asp Ala Ile Thr Leu  
100 105 110

Ile Ala Tyr Phe Asn Ile Ala Lys Trp Val Leu Val Ser Tyr Ala Val  
115 120 125

<210> 167  
<211> 537  
<212> DNA  
<213> Homo sapiens

<400> 167  
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acaattatatt caaattatca aaatttaatg ttgtcttttag tggtttttagc taattttatt 120  
ccccttttaa tggatacttc aggcaatgcc ggctctcagg catctgcgct aataattcgt 180  
gagcttgctc ttggtactgt caaggtaaaa gattttttta aagtgttttt aaaggaaata 240  
tgtgttagca ttctagtggg agcaattcctt gctagtgtta attttttaag aattgtcttt 300  
ttttagctc cacaccattc tgataagctg aaaatagctt ttgtagtctt atcttgcttg 360  
atggtaagtt tgacagtagc aaagatattg ggaggtcttt taccattgt tgctaaactt 420  
ttaaagttgg atccagcact tatggcaggc cctttaatca ctacaattgc agatgctatt 480  
actttaatag cttattttta tatagcaaaa tgggttttag ttagctatgc tgtttaa 537

<210> 168  
<211> 387  
<212> DNA  
<213> Homo sapiens

<400> 168  
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gattttttta aagtgttttt aaaggaaata tgtgttagca ttctagtggg agcaattcctt 120  
gctagtgtta attttttaag aattgtcttt tttgtagctc cacaccattc tgataagctg 180  
aaaatagctt ttgtagtctt atcttgcttg atggtaagtt tgacagtagc aaagatattg 240  
ggaggtcttt taccattgt tgctaaactt ttaaagttgg atccagcact tatggcaggc 300  
cctttaatca ctacaattgc agatgctatt actttaatag cttattttta tatagcaaaa 360  
tgggttttag ttagctatgc tgtttaa 387

<210> 169  
<211> 373  
<212> PRT  
<213> Homo sapiens

<400> 169  
Met Arg Ile Lys Asn Leu Ile Leu Ile Ala Ile Leu Leu Ile Ser Pro  
1 5 10 15

Ser Cys Ser Thr Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr  
20 25 30

Ile Pro Phe Tyr Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe  
 35 40 45  
 Ile Ile Lys Phe Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu  
 50 55 60  
 Asn Ala Gln Ile Ile Ile Ser Lys Asn Ile Gly Asn Thr Asn Ile Ala  
 65 70 75 80  
 Asn His Phe Lys Ser Val Lys Ile Asn Tyr Asn Pro Asp Tyr Pro Ile  
 85 90 95  
 Leu Lys His Ile Phe Lys Gln Phe Asn Tyr Lys Ile Ile Pro Leu Gly  
 100 105 110  
 Phe Asp Ile Pro Ile Leu Ile Tyr Lys Asn Thr His His Ile Lys Lys  
 115 120 125  
 Tyr Ile Asn Thr Lys Tyr Leu Lys Glu Glu Tyr Glu Asn Phe Ile Lys  
 130 135 140  
 Asp Gly Lys Phe Phe Ile Ser Pro Tyr Val Ser Glu Asn Leu Phe Tyr  
 145 150 155 160  
 Val Ile Ser Gln Ile Asn Asn Val Arg Phe Ser Phe Glu Lys Asn Lys  
 165 170 175  
 Leu Asn Tyr Asn Glu Asn Gln Ile Leu Lys Met Leu Glu Tyr Phe Ser  
 180 185 190  
 Ser Phe Leu Asn Thr Lys Gln Met Asp Leu Gln Lys Asp Phe Phe Asn  
 195 200 205  
 Lys Tyr Gly Tyr Leu Lys Leu Asn Lys Ile Leu Leu Asn Lys Lys Ser  
 210 215 220  
 Leu Leu Ile Ala Gly Leu Ser Asp Ile Thr Phe Tyr Asn Ser Leu Ser  
 225 230 235 240  
 Glu Gln Glu Lys Ser Gln Ile Lys Phe Ser Tyr Leu Ile Asn Asp Asn  
 245 250 255  
 Asn Glu Ile Val Ile Ser Asn Pro Asn Phe Ile Gly Ile Leu Glu Thr  
 260 265 270  
 Ser Val Leu Thr Lys Lys Phe Ile Asn Trp Ile Leu Tyr Lys Lys Thr  
 275 280 285  
 Gln Lys Thr Leu Ile Gly Phe Asn Asn Gln Ser Gln Ser Asn Ile Cys  
 290 295 300  
 Phe Gly Phe Ala Asn Gly Phe Thr Pro Tyr Lys Glu Leu Asn Leu Lys  
 305 310 315 320  
 Ile Lys His Ser Ile Asp Gly Ile Ser Pro Phe Ile Ile Asp Glu Thr  
 325 330 335  
 Gln Ile Asn Ser His Ser Tyr Val Leu Ser Lys Lys Thr Ile Glu Lys  
 340 345 350

Glu Asn Leu Leu Ile Asn Glu Trp Phe Phe Ser Lys Ala Asn Asn Leu  
 355 360 365

Lys Lys Asn Lys Asn  
 370

<210> 170

<211> 353

<212> PRT

<213> Homo sapiens

<400> 170

Asn Lys Asn Ile Val Val Leu Thr Asp Asn Lys Thr Ile Pro Phe Tyr  
 1 5 10 15

Ile Asn Gln Phe Asn Ile Glu Asn Lys Ala Asn Phe Ile Ile Lys Phe  
 20 25 30

Arg Asn Asn Ile Asp Leu Gln Thr Ile Glu Lys Glu Asn Ala Gln Ile  
 35 40 45

Ile Ile Ser Lys Asn Ile Gly Asn Thr Asn Ile Ala Asn His Phe Lys  
 50 55 60

Ser Val Lys Ile Asn Tyr Asn Pro Asp Tyr Pro Ile Leu Lys His Ile  
 65 70 75 80

Phe Lys Gln Phe Asn Tyr Lys Ile Ile Pro Leu Gly Phe Asp Ile Pro  
 85 90 95

Ile Leu Ile Tyr Lys Asn Thr His His Ile Lys Lys Tyr Ile Asn Thr  
 100 105 110

Lys Tyr Leu Lys Glu Glu Tyr Glu Asn Phe Ile Lys Asp Gly Lys Phe  
 115 120 125

Phe Ile Ser Pro Tyr Val Ser Glu Asn Leu Phe Tyr Val Ile Ser Gln  
 130 135 140

Ile Asn Asn Val Arg Phe Ser Phe Glu Lys Asn Lys Leu Asn Tyr Asn  
 145 150 155 160

Glu Asn Gln Ile Leu Lys Met Leu Glu Tyr Phe Ser Ser Phe Leu Asn  
 165 170 175

Thr Lys Gln Met Asp Leu Gln Lys Asp Phe Phe Asn Lys Tyr Gly Tyr  
 180 185 190

Leu Lys Leu Asn Lys Ile Leu Leu Asn Lys Lys Ser Leu Leu Ile Ala  
 195 200 205

Gly Leu Ser Asp Ile Thr Phe Tyr Asn Ser Leu Ser Glu Gln Glu Lys  
 210 215 220

Ser Gln Ile Lys Phe Ser Tyr Leu Ile Asn Asp Asn Asn Glu Ile Val  
 225 230 235 240

Ile Ser Asn Pro Asn Phe Ile Gly Ile Leu Glu Thr Ser Val Leu Thr  
 245 250 255

Lys Lys Phe Ile Asn Trp Ile Leu Tyr Lys Lys Thr Gln Lys Thr Leu  
 260 265 270  
 Ile Gly Phe Asn Asn Gln Ser Gln Ser Asn Ile Cys Phe Gly Phe Ala  
 275 280 285  
 Asn Gly Phe Thr Pro Tyr Lys Glu Leu Asn Leu Lys Ile Lys His Ser  
 290 295 300  
 Ile Asp Gly Ile Ser Pro Phe Ile Ile Asp Glu Thr Gln Ile Asn Ser  
 305 310 315 320  
 His Ser Tyr Val Leu Ser Lys Lys Thr Ile Glu Lys Glu Asn Leu Leu  
 325 330 335  
 Ile Asn Glu Trp Phe Phe Ser Lys Ala Asn Asn Leu Lys Lys Asn Lys  
 340 345 350

Asn

<210> 171  
 <211> 1122  
 <212> DNA  
 <213> Homo sapiens

<400> 171  
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 aataagaaca tcgttggtact aactgacaat aaaacaatac cattttatat aaatcaattt 120  
 aatatagaaa ataaagcaaa ttttataatt aagtttagaa ataattattga tctgcaaaca 180  
 atagaaaaag aaaatgcaca aataattatt tctaaaaaca ttggtaacac aaatattgct 240  
 aaccattttta aatctgtaaa aatcaattat aatccagatt atcctatctt aaagcatatt 300  
 ttcaagcaat ttaactacaa aattattcca ttgggctttg acattcctat tttaatctat 360  
 aaaaatacac atcatattaa aaaatacata aacactaaat atctaaaaga agaatacgaa 420  
 aatttcatta aagatggaaa attttttata tcgccttatg tttctgaaaa tttattttat 480  
 gtgatttctc aaataaataa tgtgagattt tcttttgaaa aaaataaatt aaattataat 540  
 gagaatcaaa ttttaaaaat gctagaatat ttctcatcat ttttaaatatc aaaacaaatg 600  
 gacttgcaaa aagatttctt taataaatac ggctacctaa agttaataaa aatattgctt 660  
 aataaaaaat ctctttttaat agcaggattg agcgatataa ccttctacaa tagcttaagc 720  
 gaacaagaga agtcacaaat aaaattttcc tatttaataa acgataacaa tgaaattggt 780  
 atctcaaacc caaattttat tggcatttta gaaacatctg ttttaactaa aaaattttatc 840  
 aactggatat tgtataaaaa aactcaaaaa accctaattg gatttaacaa tcaatcccaa 900  
 tcaaatatat gttttggatt tgccaatggg tttaccctt acaaagaatt aaatttataaa 960  
 ataaaacatt caattgatgg aatatctcct tttattattg acgaaactca aatcaatagc 1020  
 cattcctatg tattaagcaa aaaaacaatt gaaaaagaaa acttactaat aaatgaatgg 1080  
 tttttctcta aagctaataa tctaaaaaaa aataaaaatt aa 1122

<210> 172  
 <211> 1062  
 <212> DNA  
 <213> Homo sapiens

<400> 172  
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 aatatagaaa ataaagcaaa ttttataatt aagtttagaa ataattattga tctgcaaaca 120  
 atagaaaaag aaaatgcaca aataattatt tctaaaaaca ttggtaacac aaatattgct 180  
 aaccattttta aatctgtaaa aatcaattat aatccagatt atcctatctt aaagcatatt 240  
 ttcaagcaat ttaactacaa aattattcca ttgggctttg acattcctat tttaatctat 300  
 aaaaatacac atcatattaa aaaatacata aacactaaat atctaaaaga agaatacgaa 360

aatttcatta aagatggaaa attttttata tgcgcttatg tttctgaaaa tttattttat 420  
gtgatttctc aaataaataa tgtgagattt tcttttgaaa aaaataaatt aaattataat 480  
gagaatcaaa ttttaaaaaat gctagaatat ttctcatcat ttttaaatac aaaacaaatg 540  
gacttgcaaa aagattttctt taataaatac ggctacctaa agttaataa aatattgctt 600  
aataaaaaat ctcttttaat agcaggattg agcgatataa ccttctacaa tagcttaagc 660  
gaacaagaga agtcacaaat aaaattttcc tatttaataa acgataacaa tgaaattggt 720  
atctcaaacc caaattttat tggcatttta gaaacatctg ttttaactaa aaaattttatc 780  
aactggatat tgtataaaaa aactcaaaaa accctaattg gatttaacaa tcaatcccaa 840  
tcaaatatat gttttggatt tgccaatggg tttaccctt acaaagaatt aaatttaaaa 900  
ataaaacatt caattgatgg aatatctcct ttattattg acgaaactca aatcaatagc 960  
cattcctatg tattaagcaa aaaaacaatt gaaaaagaaa acttactaat aaatgaatgg 1020  
tttttctcta aagctaataa tctaaaaaaa aataaaaaatt aa 1062

<210> 173

<211> 216

<212> PRT

<213> Homo sapiens

<400> 173

Met Ile Lys Thr Ile Leu Leu Leu Val Leu Tyr Pro Val Val Val Phe  
1 5 10 15

Ser Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr  
20 25 30

Gln Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly  
35 40 45

Leu Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile  
50 55 60

Ile Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe  
65 70 75 80

Leu Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu  
85 90 95

Leu Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu  
100 105 110

Tyr Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser  
115 120 125

Ser Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr  
130 135 140

Lys Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp  
145 150 155 160

Gly Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu  
165 170 175

Ile Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp  
180 185 190

Ser Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn  
195 200 205

Phe Leu Tyr Asp Ile Lys Lys Asn  
210 215

<210> 174  
 <211> 199  
 <212> PRT  
 <213> Homo sapiens

<400> 174  
 Gln Ile Ser Ala Asn Gln Tyr Phe Glu Gly Ile Tyr Ala Lys Tyr Gln  
           1                          5                          10                          15  
 Asn Ile Glu Asp Met Gln Ala Thr Ile Asn Phe Thr Leu Lys Gly Leu  
                           20                          25                          30  
 Lys Gln Thr Gly Val Leu Leu Tyr Lys Phe Pro Asp Lys Phe Ile Ile  
                           35                          40                          45  
 Asn Leu Asp Ser Asn Asn Gln Val Phe Val Ser Asp Gly Glu Phe Leu  
           50                          55                          60  
 Thr Val Tyr Val Pro Ser Leu Gly Thr Ser Phe Asn Gln Gln Leu Leu  
           65                          70                          75                          80  
 Lys Gly Ser Ser Gly Gly Gly Leu Met Lys Val Leu Asn Ser Glu Tyr  
                           85                          90                          95  
 Ser Val Ser Tyr Thr Asn Ser Pro Asn Leu Glu Asp Leu Asp Ser Ser  
                           100                          105                          110  
 Glu Pro Gly Lys Tyr Ile Lys Leu Thr Phe Ser Arg Lys Leu Tyr Lys  
           115                          120                          125  
 Gly Ala Ala Thr Ile Asn Ser Phe Ile Ile Ala Phe Ala Pro Asp Gly  
           130                          135                          140  
 Ile Ile Arg Arg Ile Thr Ala Phe Pro Thr Ser Gly Gly Arg Glu Ile  
           145                          150                          155                          160  
 Val Ile Asp Leu Thr Ala Val Lys Phe Asn Val Gly Ile Leu Asp Ser  
                           165                          170                          175  
 Lys Phe Lys Tyr Asp Pro Pro Lys Ser Ser Asn Lys Val Asp Asn Phe  
           180                          185                          190  
 Leu Tyr Asp Ile Lys Lys Asn  
           195

<210> 175  
 <211> 651  
 <212> DNA  
 <213> Homo sapiens

<400> 175  
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 gcaaatcaat attttgaagg aatttatgct aaatatcaaa atatatagagga catgcaagca 120  
 acaattaatt ttacttttaa ggggttaaag caaacagggtg ttttgcttta taagtttcca 180  
 gacaagttta ttatcaattt agattcaa atcaagttt ttgtaagtga tgggtgaattt 240  
 ttgacagttt atgttccatc tcttgggact tcttttaatc agcaattatt aaagggtagt 300  
 agtgggggag gtcttatgaa agttttaaat agtgagtata gcgtatctta taccaattct 360  
 ccaaatttag aagatctcga ttcattctgag cctggaaaat atattaaatt aaccttttct 420  
 agaaagcttt acaagggggc tgctactatt aattctttta ttattgcttt tgctccggat 480

ggaataatta gaagaattac tgcttttctt actagtgggtg ggcgcgaaat agttattgat 540  
 ttgactgctg tgaagtttaa tgttggaatt cttgatagca aatttaaata tgatcctcca 600  
 aaatcttcaa ataaggtaga taatttttta tatgatatta aaaaaatta a 651

<210> 176  
 <211> 600  
 <212> DNA  
 <213> Homo sapiens

<400> 176  
 caaatatctg caaatcaata ttttgaagga atttatgcta aatatcaaaa tatagaggac 60  
 atgcaagcaa caattaattt tacttttaaag gggttaaagc aaacaggtgt tttgctttat 120  
 aagtttccag acaagtttat tatcaattta gattcaaata atcaagtttt tgtaagtgtat 180  
 ggtgaatttt tgacagttta tgttccatct cttgggactt cttttaatca gcaattatta 240  
 aagggtagta gtgggggagg tcttatgaaa gttttaaata gtgagtatag cgtatcttat 300  
 accaattctc caaatctaga agatctcgat tcatctgagc ctggaaaata tattaaatta 360  
 accttttcta gaaagcttta caagggggct gctactatta attcttttat tattgctttt 420  
 gctccggatg gaataattag aagaattact gcttttccta ctagtgggtgg ggcgcgaaata 480  
 gttattgatt tgactgctgt gaagtttaat gttggaattc ttgatagcaa atttaaatat 540  
 gatcctccaa aatcttcaaa taaggtagat aattttttat atgatattaa aaaaaattaa 600

<210> 177  
 <211> 251  
 <212> PRT  
 <213> Homo sapiens

<400> 177  
 Met Lys Glu Arg Cys Leu Tyr Leu Leu Val Phe Val Ala Leu Cys Val  
 1 5 10 15  
 Asn Asn Leu Phe Ser Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser  
 20 25 30  
 Leu Asn Glu Phe Leu Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro  
 35 40 45  
 Met Val Asp Ser Asn Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu  
 50 55 60  
 Ile Arg Lys Ile Phe Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys  
 65 70 75 80  
 Tyr Leu Phe Lys Lys Asn Glu His Gly Val Phe Phe Val Lys Val Asn  
 85 90 95  
 Ile Pro His Gly Thr Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly  
 100 105 110  
 Val Trp Thr Asn Asp Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp  
 115 120 125  
 Leu Ile Pro Phe Ser Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr  
 130 135 140  
 Ile Ser Leu Arg Asn Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu  
 145 150 155 160  
 Ile Phe Tyr Ile Gly Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser  
 165 170 175



Phe Asn Asn Phe Asn Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp  
 180 185 190  
 Asn Lys Gly Ile Tyr Thr Ile Lys Leu Lys Asn Leu Pro Lys Asp Arg  
 195 200 205  
 Ile Tyr Tyr Tyr Phe Ile Asp Ser Gly Asn Lys Val Ile Asp Lys Asn  
 210 215 220  
 Asn Val Asn Arg Ile Asn Leu Tyr Phe Val Glu Gly Ile Asp Asn Lys  
 225 230 235 240  
 Ile Asp Phe Glu Val Ser Tyr Phe Asp His Lys  
 245 250

<210> 178  
 <211> 230  
 <212> PRT  
 <213> Homo sapiens

<400> 178  
 Asp Asp Tyr Leu Ile Tyr Asp Phe Asp Leu Ser Leu Asn Glu Phe Leu  
 1 5 10 15  
 Glu Val Ser Thr Arg Lys Asp Asn Leu Glu Pro Met Val Asp Ser Asn  
 20 25 30  
 Arg Ile Leu Leu Phe Tyr Pro Pro Lys Lys Glu Ile Arg Lys Ile Phe  
 35 40 45  
 Ala Ala Phe Asp Phe Asp Gln Tyr Ser Lys Lys Tyr Leu Phe Lys Lys  
 50 55 60  
 Asn Glu His Gly Val Phe Phe Val Lys Val Asn Ile Pro His Gly Thr  
 65 70 75 80  
 Ser Ser Ile Lys Tyr Arg Leu Ile Val Asp Gly Val Trp Thr Asn Asp  
 85 90 95  
 Glu Tyr Asn Lys Asn Val Val Tyr Asn Glu Asp Leu Ile Pro Phe Ser  
 100 105 110  
 Lys Ile Glu Ile Ala Lys Glu Lys Ser Ser Tyr Ile Ser Leu Arg Asn  
 115 120 125  
 Pro Ile Gln Ser Tyr Asp Asn Asn Glu Ile Glu Ile Phe Tyr Ile Gly  
 130 135 140  
 Arg Pro Gly Gln Ile Val Thr Ile Ala Gly Ser Phe Asn Asn Phe Asn  
 145 150 155 160  
 Pro Phe Leu Asn Arg Leu Ile Glu Lys Glu Asp Asn Lys Gly Ile Tyr  
 165 170 175  
 Thr Ile Lys Leu Lys Asn Leu Pro Lys Asp Arg Ile Tyr Tyr Tyr Phe  
 180 185 190  
 Ile Asp Ser Gly Asn Lys Val Ile Asp Lys Asn Asn Val Asn Arg Ile  
 195 200 205

Asn Leu Tyr Phe Val Glu Gly Ile Asp Asn Lys Ile Asp Phe Glu Val  
 210 215 220

Ser Tyr Phe Asp His Lys  
 225 230

<210> 179  
 <211> 756  
 <212> DNA  
 <213> Homo sapiens

<400> 179  
 atgaaagaaa ggtgtttgta tttattgggt tttgtagctt tatgtgttaa caatcttttt 60  
 tcagatgatt atttaattta tgactttgat ttaagtttaa atgaatttct agaagtttca 120  
 acaagaaaag acaatcttga gcctatgggt gattccaatc gtatattatt gttttatcct 180  
 cctaaaaaag aaattagaaa aatttttgct gcctttgact ttgatcagta ttctaagaaa 240  
 tattttattca aaaaaaatga gcatggagtt ttttttgta aagttaatat tcctcatggc 300  
 acaagcagta taaaatatag gcttattgta gacgggtgtt ggactaatga cgagtataat 360  
 aaaaatgtag ttataatga ggatttaatc ccattttcta aaattgagat cgctaaagag 420  
 aagtccagct atatttcttt gagaaatcca atacaatcat atgataacaa tgaaattgaa 480  
 attttttaca taggtcgtcc tggacaaata gttacaatag ctggtagttt taacaatttt 540  
 aatccttttt taaataggct tattgagaaa gaggacaata aggggaattta tactattaag 600  
 cttaaaaatt tacccaagga tagaatttat tattatttta ttgattctgg taacaaagta 660  
 atagataaaa ataatgttaa tagaattaat ttatattttg ttgagggaaat tgataataaa 720  
 atagatttcg aagtttccta ttttgatcat aagtaa 756

<210> 180  
 <211> 693  
 <212> DNA  
 <213> Homo sapiens

<400> 180  
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 agaaaagaca atcttgagcc tatggttgat tccaatcgta tattattggt ttatcctcct 120  
 aaaaaagaaa tttagaaaaa ttttgctgcc tttgactttg atcagttatt taagaaaatt 180  
 ttattcaaaa aaaatgagca tggagttttt tttgttaaag ttaatatcc tcatggcaca 240  
 agcagtataa aatataggct tattgtagac ggtgtttgga ctaatgacga gtataataaa 300  
 aatgtagttt ataatgagga tttaatccca ttttctaaaa ttgagatcgc taaagagaag 360  
 tccagctata tttctttgag aaatccaata caatcatatg ataacaatga aattgaaatt 420  
 ttttacatag gtcgtcctgg acaaatagtt acaatagctg gtagttttta caattttaat 480  
 ctttttttaa ataggcttat tgagaaagag gacaataagg gaattttata tattaagctt 540  
 aaaaatttac ccaaggatag aatttattat tattttattg attctggtaa caaagtaata 600  
 gataaaaata atgttaatag aattaattta tattttgttg aggggaattga taataaaaata 660  
 gatttcgaag tttcctattt tgatcataag taa 693

<210> 181  
 <211> 129  
 <212> PRT  
 <213> Homo sapiens

<400> 181  
 Met Arg Gln Arg Val Met Ile Ala Met Ala Leu Ser Cys His Pro Ser  
 1 5 10 15

Leu Leu Ile Ala Asp Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln  
 20 25 30

Glu Gln Ile Leu Leu Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr  
 35 40 45

Ser Thr Ile Phe Ile Thr His Asp Leu Ala Val Val Ala Glu Ile Cys  
50 55 60

Asp Thr Val Ser Val Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr  
65 70 75 80

Val Glu Glu Ile Phe Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu  
85 90 95

Leu Lys Ser Ile Leu Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr  
100 105 110

Ser Thr Lys Glu Asn Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu  
115 120 125

Phe

<210> 182  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 182  
Glu Pro Thr Thr Ala Leu Asp Val Thr Ile Gln Glu Gln Ile Leu Leu  
1 5 10 15

Leu Ile Lys Asn Leu Ser Lys Lys Phe Asn Thr Ser Thr Ile Phe Ile  
20 25 30

Thr His Asp Leu Ala Val Val Ala Glu Ile Cys Asp Thr Val Ser Val  
35 40 45

Met Tyr Gln Gly Lys Ile Val Glu Glu Gly Thr Val Glu Glu Ile Phe  
50 55 60

Asn Asn Pro Lys His Pro Tyr Thr Ile Gly Leu Leu Lys Ser Ile Leu  
65 70 75 80

Thr Leu Glu His Asp Pro Asn Lys Lys Leu Tyr Ser Thr Lys Glu Asn  
85 90 95

Pro Met Lys Ile Thr Lys Thr Ser Thr Glu Glu Phe  
100 105

<210> 183  
<211> 390  
<212> DNA  
<213> Homo sapiens

<400> 183  
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gatgaaccaa caacagccct tgatgttaca atccaagagc aaatattatt attaatcaaa 120  
aacctatcta aaaaattcaa tacttctacc atatttataa ctcattgatct tgcgggtggt 180  
gctgaaattt gtgatacagt atctgtaatg tatcaaggaa aaattgtaga agaaggaaca 240  
gtagaggaaa tatttaacaa tcctaagcat ccttacacca ttgggctttt aaaatcaatt 300  
cttacgctag aacacgatcc aaataaaaag ctttattcaa caaaagaaaa ccctatgaag 360  
atcacaaaaa ccagcaccga ggagttttta 390

<210> 184

<211> 327  
 <212> DNA  
 <213> Homo sapiens

<400> 184  
 gaaccaacaa cagcccttga tggtacaatc caagagcaaa tattattatt aatcaaaaac 60  
 ctatctaaaa aattcaatac ttctaccata tttataactc atgatcttgc gggtgttgct 120  
 gaaatttgtg atacagtatc tgtaatgtat caaggaaaaa ttgtagaaga aggaacagta 180  
 gaggaatat ttaacaatcc taagcatcct tacaccattg ggctttttaa atcaattctt 240  
 acgctagaac acgatccaaa taaaaagctt tattcaacaa aagaaaaccc tatgaagatc 300  
 acaaaaacca gcaccgagga gtttttaa 327

<210> 185  
 <211> 147  
 <212> PRT  
 <213> Homo sapiens

<400> 185  
 Met Ala Ile Met Glu Arg Ser Ile Ile Gly Leu Phe Ile Ala Leu Ala  
 1 5 10 15  
 Phe Val Ser Trp Leu Thr Val Ala Arg Val Val Arg Gly Gln Val Gln  
 20 25 30  
 Ser Leu Ser Ser Ser Glu Phe Ile Gln Ala Ala Lys Thr Leu Gly Ala  
 35 40 45  
 Thr Asn Gln Arg Ile Ile Leu Lys His Leu Ile Pro Asn Ser Ile Gly  
 50 55 60  
 Met Ile Val Ile Phe Thr Thr Ile Arg Val Pro Ser Phe Ile Met Ala  
 65 70 75 80  
 Glu Ala Phe Leu Ser Phe Leu Gly Leu Gly Ile Ser Ala Pro Met Thr  
 85 90 95  
 Ser Trp Gly Glu Leu Val Gln Asn Gly Ile Ala Thr Phe Val Glu Tyr  
 100 105 110  
 Pro Trp Lys Val Phe Ile Pro Ala Ile Val Met Thr Ile Phe Leu Leu  
 115 120 125  
 Phe Met Asn Phe Leu Gly Asp Gly Leu Arg Asp Ala Phe Asp Pro Lys  
 130 135 140  
 Asp Ser Ile  
 145

<210> 186  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 186  
 Arg Val Val Arg Gly Gln Val Gln Ser Leu Ser Ser Ser Glu Phe Ile  
 1 5 10 15  
 Gln Ala Ala Lys Thr Leu Gly Ala Thr Asn Gln Arg Ile Ile Leu Lys  
 20 25 30

His Leu Ile Pro Asn Ser Ile Gly Met Ile Val Ile Phe Thr Thr Ile  
 35 40 45

Arg Val Pro Ser Phe Ile Met Ala Glu Ala Phe Leu Ser Phe Leu Gly  
 50 55 60

Leu Gly Ile Ser Ala Pro Met Thr Ser Trp Gly Glu Leu Val Gln Asn  
 65 70 75 80

Gly Ile Ala Thr Phe Val Glu Tyr Pro Trp Lys Val Phe Ile Pro Ala  
 85 90 95

Ile Val Met Thr Ile Phe Leu Leu Phe Met Asn Phe Leu Gly Asp Gly  
 100 105 110

Leu Arg Asp Ala Phe Asp Pro Lys Asp Ser Ile  
 115 120

<210> 187  
 <211> 444  
 <212> DNA  
 <213> Homo sapiens

<400> 187  
 atggcaataa tggaaagaag tataatcggc ttattcatag cacttgcatt tgtatcatgg 60  
 ttaacagtag ctcgagttgt acgaggccaa gtacaatcac tatcaagttc ggaatttata 120  
 caagcagcca aaacccttgg tgcaacaaat caaagaataa tcttaaaaca cttgatccct 180  
 aatagcattg gaatgatagt tatattcaca acaataaggg ttccaagctt tattatggct 240  
 gaagcatttt tatecttttt aggacttgga atttcagctc caatgacaag ctggggagaa 300  
 ttagtgcaaa atggaattgc tacatttggt gaatatccat ggaaagtttt tattccagct 360  
 atagttatga caatatttct attatttatg aacttttttag gtgatgggct aagggatgct 420  
 tttgatccaa aagatagcat ctaa 444

<210> 188  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 188  
 cgagttgtac gaggccaagt acaatcacta tcaagttcgg aatttataca agcagccaaa 60  
 acccttggtg caacaaatca aagaataatc ttaaaacact tgatccctaa tagcattgga 120  
 atgatagtta tattcacaac aataagggtt ccaagcttta ttatggctga agcattttta 180  
 tccttttttag gacttggaat ttcagctcca atgacaagct ggggagaatt agtgcaaaat 240  
 ggaattgcta catttggtga atatccatgg aaagttttta ttccagctat agttatgaca 300  
 atatttctat tatttatgaa ctttttaggt gatgggctaa gggatgcttt tgatccaaaa 360  
 gatagcatct aa 372

<210> 189  
 <211> 306  
 <212> PRT  
 <213> Homo sapiens

<400> 189  
 Met Leu Lys Phe Thr Leu Lys Lys Ile Leu Gly Ile Ile Pro Thr Leu  
 1 5 10 15

Leu Val Ile Ile Phe Leu Cys Phe Phe Val Met Arg Met Ala Pro Gly  
 20 25 30

Ser Pro Phe Asp Ser Glu Lys Pro Ile Asp Pro Gln Val Lys Ala Arg

35					40					45					
Leu	Met	Glu	Lys	Tyr	His	Leu	Asp	Lys	Pro	Phe	Tyr	Ile	Gln	Ala	Phe
50						55					60				
Tyr	Tyr	Ile	Thr	Asn	Ala	Leu	Arg	Gly	Asp	Leu	Gly	Pro	Ser	Leu	Lys
65					70					75					80
Lys	Lys	Asp	Leu	Thr	Val	Ser	Gln	Tyr	Ile	Lys	Leu	Gly	Phe	Pro	Lys
				85					90					95	
Ser	Leu	Thr	Leu	Gly	Val	Ile	Ser	Leu	Ile	Ile	Ser	Leu	Ser	Ile	Gly
			100					105					110		
Ile	Pro	Ile	Gly	Ile	Leu	Ala	Ala	Ile	Tyr	Lys	Asn	Thr	Tyr	Val	Asp
			115				120					125			
Tyr	Ile	Ile	Thr	Ser	Ile	Ala	Ile	Leu	Gly	Ile	Ser	Ile	Pro	Leu	Phe
	130					135					140				
Val	Ile	Gly	Pro	Ile	Leu	Gln	Tyr	Phe	Phe	Ala	Ile	Lys	Trp	Gly	Leu
145						150					155				160
Leu	Tyr	Thr	Ser	Gly	Trp	Ile	Thr	Glu	Arg	Gly	Gly	Phe	Ser	Asn	Leu
				165					170					175	
Ile	Leu	Pro	Ile	Ile	Thr	Leu	Ser	Met	Pro	Asn	Val	Ala	Ile	Phe	Ala
			180					185					190		
Arg	Ile	Ile	Arg	Gly	Ser	Met	Leu	Glu	Ile	Ile	Gln	Ser	Asp	Phe	Ile
			195				200					205			
Arg	Thr	Ala	Arg	Ala	Lys	Gly	Leu	Ser	Phe	Lys	Lys	Ile	Val	Ile	Lys
			210			215					220				
His	Met	Leu	Arg	Gly	Ala	Met	Leu	Pro	Val	Val	Ser	Tyr	Ile	Gly	Pro
225					230					235					240
Ala	Phe	Ala	Ala	Ile	Ile	Ser	Gly	Ser	Val	Val	Ile	Glu	Lys	Ile	Phe
				245					250					255	
Arg	Ile	Ala	Gly	Met	Gly	Met	Phe	Ile	Thr	Glu	Ser	Ala	Leu	Asn	Arg
			260					265					270		
Asp	Tyr	Pro	Val	Leu	Met	Gly	Gly	Leu	Leu	Val	Tyr	Ser	Ile	Ile	Leu
			275			280						285			
Leu	Ile	Ser	Ile	Leu	Ile	Ser	Asp	Ile	Ile	Tyr	Lys	Ile	Leu	Asp	Pro
			290			295					300				

Arg Val  
305

<210> 190  
<211> 274  
<212> PRT  
<213> Homo sapiens

<400> 190  
Ser Pro Phe Asp Ser Glu Lys Pro Ile Asp Pro Gln Val Lys Ala Arg

1	5	10	15
Leu Met Glu Lys Tyr His Leu Asp Lys Pro Phe Tyr Ile Gln Ala Phe	20	25	30
Tyr Tyr Ile Thr Asn Ala Leu Arg Gly Asp Leu Gly Pro Ser Leu Lys	35	40	45
Lys Lys Asp Leu Thr Val Ser Gln Tyr Ile Lys Leu Gly Phe Pro Lys	50	55	60
Ser Leu Thr Leu Gly Val Ile Ser Leu Ile Ile Ser Leu Ser Ile Gly	65	70	75
Ile Pro Ile Gly Ile Leu Ala Ala Ile Tyr Lys Asn Thr Tyr Val Asp	85	90	95
Tyr Ile Ile Thr Ser Ile Ala Ile Leu Gly Ile Ser Ile Pro Leu Phe	100	105	110
Val Ile Gly Pro Ile Leu Gln Tyr Phe Phe Ala Ile Lys Trp Gly Leu	115	120	125
Leu Tyr Thr Ser Gly Trp Ile Thr Glu Arg Gly Gly Phe Ser Asn Leu	130	135	140
Ile Leu Pro Ile Ile Thr Leu Ser Met Pro Asn Val Ala Ile Phe Ala	145	150	155
Arg Ile Ile Arg Gly Ser Met Leu Glu Ile Ile Gln Ser Asp Phe Ile	165	170	175
Arg Thr Ala Arg Ala Lys Gly Leu Ser Phe Lys Lys Ile Val Ile Lys	180	185	190
His Met Leu Arg Gly Ala Met Leu Pro Val Val Ser Tyr Ile Gly Pro	195	200	205
Ala Phe Ala Ala Ile Ile Ser Gly Ser Val Val Ile Glu Lys Ile Phe	210	215	220
Arg Ile Ala Gly Met Gly Met Phe Ile Thr Glu Ser Ala Leu Asn Arg	225	230	235
Asp Tyr Pro Val Leu Met Gly Gly Leu Leu Val Tyr Ser Ile Ile Leu	245	250	255
Leu Ile Ser Ile Leu Ile Ser Asp Ile Ile Tyr Lys Ile Leu Asp Pro	260	265	270

Arg Val

<210> 191

<211> 921

<212> DNA

<213> Homo sapiens

<400> 191

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attgatcctc aagtaaaagc aagattgatg gaaaaatata accttgacaa gcctttttat 180
attcaagctt tttattacat tacaaacgct ctcaggggag atctgggacc ttctttgaaa 240
aagaaagacc ttacagttag tcaatacata aaattaggat ttccaaaatc acttacacta 300
ggagtaatat cccttattat atcactatca ataggaatac caataggtag attagctgcc 360
atattataaaa atacttatgt ggattatata ataacatcaa tagcaatatt ggggatttca 420
ataccattat tcgtaatagg gccaatttta caatattttt ttgcaattaa atgggggttg 480
ctttatacct ctggatggat tacagaaaga ggaggatttt caaatttaat tctaccata 540
ataactctta gcatgcccaa cgtagctatt ttcgcaagaa taatcagagg atcaatgcta 600
gaaataatac aaagcgactt tataagaact gcgcgtgcaa aagggtctaa cttcaaaaag 660
atagttataa agcatatggt aagaggagca atgttgccctg tagtaagcta tataggtcca 720
gcatttgctg ctataatatac tgggaagcgtg gttattgaaa aaatatttag aattgctgga 780
atgggaatgt ttataacaga atccgcacta aacagagatt acccagtatt aatgggcgga 840
ttgttagtat attcaataat actgcttatt tctatattaa tatcagatat tatatataaa 900
atattagatc caagagtata a                                     921

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<210> 192  
 <211> 825  
 <212> DNA  
 <213> Homo sapiens

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<400> 192
agtccatttg attctgaaaa acctattgat cctcaagtaa aagcaagatt gatggaaaaa 60
tatcaccttg acaagccttt ttatattcaa gctttttatt acattacaaa cgctctcagg 120
ggagatctgg gaccttcttt gaaaaagaaa gaccttacag ttagtcaata cataaaatta 180
ggattttccaa aatcacttac actaggagta atatccctta ttatatcact atcaatagga 240
ataccaatag gtatatttagc tgccatttat aaaaatactt atgtggatta tataataaca 300
tcaatagcaa tattggggat ttcaatacca ttattcgtaa tagggccaat tttacaatat 360
ttttttgcaa ttaaattgggg tttgctttat acctctggat ggattacaga aagaggagga 420
ttttcaaatt taattctacc cataataact cttagcatgc ccaacgtagc tattttcgca 480
agaataatca gaggatcaat gctagaaata atacaaagcg actttataag aactgcgcgt 540
gcaaaagggc taagcttcaa aaagatagtt ataaagcata tgtaagagg agcaatgttg 600
cctgtagtaa gctatatagg tccagcattt gctgctataa tatctggaag cgtgggttatt 660
gaaaaaatat ttagaattgc tggaaatggga atgtttataa cagaatccgc actaaacaga 720
gattaccagc tattaatggg cggattgtta gtatattcaa taatactgct tatttctata 780
ttaatatcag atattatata taaaatatta gatccaagag tataa                                     825

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<210> 193  
 <211> 523  
 <212> PRT  
 <213> Homo sapiens

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<400> 193
Met Lys Tyr Ile Lys Ile Ala Leu Met Leu Ile Ile Phe Ser Leu Ile
  1             5             10             15

Ala Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser
      20             25             30

Asn Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu
      35             40             45

Tyr Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys
      50             55             60

Asp Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn
      65             70             75             80

Ile Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile
      85             90             95

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Val Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser  
 100 105 110  
 Tyr Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu  
 115 120 125  
 Ile Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val  
 130 135 140  
 Pro Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu  
 145 150 155 160  
 Ile Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His  
 165 170 175  
 Ser Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu  
 180 185 190  
 Asn Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu  
 195 200 205  
 Lys Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys  
 210 215 220  
 Tyr Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro  
 225 230 235 240  
 Thr Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp  
 245 250 255  
 Phe Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg  
 260 265 270  
 Asp Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe  
 275 280 285  
 Asn Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile  
 290 295 300  
 Ser Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly  
 305 310 315 320  
 Ser Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser  
 325 330 335  
 Tyr Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu  
 340 345 350  
 Leu Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys  
 355 360 365  
 Tyr Lys Ile Ser Glu Gly Arg Pro Thr Thr Ala Glu Phe Leu Gln Glu  
 370 375 380  
 Gln Phe Lys Lys Ile Leu Asn Ile Asn Leu Glu Ile Glu Asn Glu Glu  
 385 390 395 400  
 Trp Thr Thr Phe Leu Gly Ser Arg Arg Thr Gly Asn Tyr Gln Met Ser  
 405 410 415

Ser Val Gly Trp Ile Gly Asp Tyr Phe Asp Pro Leu Thr Phe Leu Asp  
 420 425 430

Ser Leu Phe Thr Thr Glu Asn His Phe Leu Gly Ala Tyr Lys Tyr Ser  
 435 440 445

Asn Lys Glu Tyr Asp Ala Leu Ile Lys Lys Ser Asn Phe Glu Leu Asp  
 450 455 460

Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu Ile Ile Ala  
 465 470 475 480

Glu Lys Asp Phe Pro Met Ala Pro Leu Tyr Ile Pro Lys Ser His Tyr  
 485 490 495

Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Val Pro Asn Ile Ala Glu  
 500 505 510

Ser Tyr Leu Tyr Glu Asp Ile Lys Thr Lys Lys  
 515 520

<210> 194

<211> 506

<212> PRT

<213> Homo sapiens

<400> 194

Cys Ile Ser Asn Ala Lys Lys Glu Lys Ile Val Phe Arg Val Ser Asn  
 1 5 10 15

Leu Ser Glu Pro Ser Ser Leu Asp Pro Gln Leu Ser Thr Asp Leu Tyr  
 20 25 30

Gly Ser Asn Ile Ile Thr Asn Leu Phe Leu Gly Leu Ala Val Lys Asp  
 35 40 45

Ser Gln Thr Gly Lys Tyr Lys Pro Gly Leu Ala Lys Ser Trp Asn Ile  
 50 55 60

Ser Glu Asp Gly Ile Ile Tyr Thr Phe Asn Leu Arg Glu Asp Ile Val  
 65 70 75 80

Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Glu Ile Lys Lys Ser Tyr  
 85 90 95

Leu Arg Ile Leu Asn Lys Lys Thr Ala Ala Met Tyr Ala Asn Leu Ile  
 100 105 110

Lys Ser Thr Ile Lys Asn Ala Gln Glu Tyr Phe Asp Glu Thr Val Pro  
 115 120 125

Glu Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
 130 135 140

Thr Leu Thr Ser Pro Lys Pro Tyr Phe Pro Asp Met Leu Thr His Ser  
 145 150 155 160

Ala Tyr Ile Pro Val Pro Met His Ile Val Glu Lys Tyr Gly Glu Asn  
 165 170 175

Trp Thr Asn Pro Glu Asn Ile Val Val Ser Gly Ala Tyr Lys Leu Lys  
 180 185 190  
 Glu Arg Ser Ile Asn Asp Lys Ile Val Ile Glu Lys Asn Glu Lys Tyr  
 195 200 205  
 Tyr Asn Ala Lys Asn Val Glu Ile Asp Glu Val Ile Phe Tyr Pro Thr  
 210 215 220  
 Glu Gly Ser Val Ala Tyr Asn Met Tyr Ile Asn Gly Glu Leu Asp Phe  
 225 230 235 240  
 Leu Gln Gly Ala Glu Lys Asn Asn Leu Glu Glu Ile Lys Ile Arg Asp  
 245 250 255  
 Asp Tyr Tyr Ser Gly Leu Lys Asn Gly Met Ala Tyr Ile Ala Phe Asn  
 260 265 270  
 Thr Thr Ile Lys Pro Leu Asp Asn Leu Lys Val Arg Gln Ala Ile Ser  
 275 280 285  
 Leu Ala Ile Asp Arg Glu Thr Leu Thr Lys Val Val Leu Lys Gly Ser  
 290 295 300  
 Ser Asp Pro Thr Arg Asn Leu Thr Pro Lys Phe Asp Asp Tyr Ser Tyr  
 305 310 315 320  
 Gly Lys Asn Leu Ile Leu Phe Asp Pro Glu Asn Ala Lys Lys Leu Leu  
 325 330 335  
 Ala Glu Ala Gly Tyr Pro Asp Gly Lys Gly Phe Pro Thr Leu Lys Tyr  
 340 345 350  
 Lys Ile Ser Glu Gly Arg Pro Thr Thr Ala Glu Phe Leu Gln Glu Gln  
 355 360 365  
 Phe Lys Lys Ile Leu Asn Ile Asn Leu Glu Ile Glu Asn Glu Glu Trp  
 370 375 380  
 Thr Thr Phe Leu Gly Ser Arg Arg Thr Gly Asn Tyr Gln Met Ser Ser  
 385 390 395 400  
 Val Gly Trp Ile Gly Asp Tyr Phe Asp Pro Leu Thr Phe Leu Asp Ser  
 405 410 415  
 Leu Phe Thr Thr Glu Asn His Phe Leu Gly Ala Tyr Lys Tyr Ser Asn  
 420 425 430  
 Lys Glu Tyr Asp Ala Leu Ile Lys Lys Ser Asn Phe Glu Leu Asp Pro  
 435 440 445  
 Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu Glu Ile Ile Ala Glu  
 450 455 460  
 Lys Asp Phe Pro Met Ala Pro Leu Tyr Ile Pro Lys Ser His Tyr Leu  
 465 470 475 480  
 Phe Arg Asn Asp Lys Trp Thr Gly Trp Val Pro Asn Ile Ala Glu Ser  
 485 490 495

Tyr Leu Tyr Glu Asp Ile Lys Thr Lys Lys  
500 505

<210> 195  
<211> 1572  
<212> DNA  
<213> Homo sapiens

<400> 195  
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aatgctaaaa aagaaaaaat agttttcaga gtatcaaact taagcgagcc atcatcactt 120  
gatacctcaac tctcaacaga cttttacggt agcaacatta ttacaaacct attccttaggc 180  
ctagcggtaa aagattctca aactggaaaa tataaaccag gacttgcaaa aagttggaat 240  
atcttctgaag atggaattat ttacacattt aacctaagag aagatatagt ttggagcgat 300  
ggagttgcca ttactgccga ggagataaaa aaatcatacc taagaatttt aaataaaaaa 360  
acagctgcaa tgtatgctaa tttaataaaa tctacaataa aaaatgcaca agaataatttc 420  
gatgagacag tgcctgaatc tgagcttggtc ataaaggcta ttgacagcaa aaccttagag 480  
ataacattaa catctccaaa gccttatttt cctgatatgc taacacactc agcatacata 540  
ccagttccaa tgcataattgt tgaaaaatat ggagaaaaat ggacaaatcc tgaaaaatata 600  
gttggttagtg gcgcatacaa acttaaaaga agatcaatta acgataaaat cgtaatagaa 660  
aaaaatgaaa aatactataa tgcaaaaaat gtagaaattg atgaagtaat attttaccca 720  
acagaaggta gcgtggctta caatatgtac ataaacggtg aactcgattt tctacaagga 780  
gcagaaaaga ataatttaga agaaattaaa ataagagatg attattattc tgggttaaaa 840  
aacggaatgg catacatagc attcaatata acaataaaac cactagacaa tttaaaagtt 900  
agacaagcca tctcccttgc cattgacaga gaaactttta cttaaagtagt tttaaagga 960  
agttcagatc caacaagaaa tctaactcca aaatttgatg attattctta tggaaaaaat 1020  
ttaatactat ttgatcctga gaatgcaaaa aaacttttag ctgaagctgg atatccggat 1080  
gggaaaggat tccccacatt aaaatataaa atatcggagg gaagaccaac aacagcagaa 1140  
tttttgcaag aacaatttaa aaaaatacta aacattaact tagaaatcga gaatgaagaa 1200  
tggaacacat tcctaggaag cagaagaact ggaaattacc aaatgtcaag cgtgggggtg 1260  
ataggagatt attttgatcc cttaacattc ttagacagct tatttacaac agaaaatcat 1320  
tttttaggag cgtacaaaata ttcaaacaaa gagtatgatg ctttaataaa aaaatcta 1380  
tttgaacttg atccaataaa aagacaagac attttaagac aagctgaaga gataatagca 1440  
gaaaaagact ttcctatggc acctttatat tatcccaaat ctcatattct tttcagaaat 1500  
gataaatgga cagggtgggt accaaatatc gcagaaagct atttatatga agatattaaa 1560  
actaaaaaat aa 1572

<210> 196  
<211> 1521  
<212> DNA  
<213> Homo sapiens

<400> 196  
tgtattagta atgctaaaaa agaaaaaata gttttcagag tatcaaactt aagcgagcca 60  
tcatcacttg atcctcaact ctcaacagac ctttacggta gcaacattat tacaaacctt 120  
ttcttaggcc tagcggtaaa agattctcaa actggaaaat ataaaccagg acttgcaaaa 180  
agttggaata tttctgaaga tggaattatt tacacattta acctaaagaga agatatagtt 240  
tgagcgatg gagttgccat tactgccgag gagataaaaa aatcatacct aagaatttta 300  
aataaaaaaa cagctgcaat gtatgctaatt ttaataaaat ctacaataaa aaatgcacaa 360  
gaatatttcg atgagacagt gcctgaattc gagcttgga taaaggctat tgacagcaaa 420  
accttagaga taacattaac atctccaaag ccttattttc ctgatatgct aacacactca 480  
gcatacatag cagttccaat gcatattgtt gaaaaatatg gagaaaattg gacaaatcct 540  
gaaaatatag ttgttagtg cgcatacaaa cttaaagaaa gatcaattaa cgataaaatc 600  
gtaatagaaa aaaatgaaaa atactataat gcaaaaaatg tagaaattga tgaagtaata 660  
ttttacccaa cagaaggtag cgtggcttac aatatgtaca taaacggtga actcgatttt 720  
ctacaaggag cagaaaagaa taatttagaa gaaattaaaa taagagatga ttattattct 780  
gggttaaaaa acggaatggc atacatagca ttcaatacaa caataaaacc actagacaa 840  
ttaaaagtta gacaagccat ctcccttgcc attgacagag aaactttaac taaagtagtt 900  
ttaaaggga gttcagatcc aacaagaaat ctaactccaa aatttgatga ttattcttat 960

ggaaaaaatt taatactatt tgatcctgag aatgcaaaaa aacttttagc tgaagctgga 1020  
 tatccggatg ggaaaggatt cccacacatta aaatataaaa tatcggaggg aagaccaaca 1080  
 acagcagaat ttttgcaaga acaattttaa aaaatactaa acattaactt agaaatcgag 1140  
 aatgaagaat ggacaacatt cctaggaagc agaagaactg gaaattacca aatgtcaagc 1200  
 gtgggggtgga taggagatta ttttgatccc ttaacattct tagacagctt atttacaaca 1260  
 gaaaatcatt ttttaggagc gtacaaatat tcaaacaaag agtatgatgc ttttaataaaa 1320  
 aaatctaatt ttgaacttga tccaataaaa agacaagaca ttttaagaca agctgaagag 1380  
 ataatagcag aaaaagactt tcctatggca cctttatata tacccaaadc tcattatctt 1440  
 ttcagaaatg ataaatggac aggggtgggt ccaaataatcg cagaaagcta tttatatgaa 1500  
 gatattaaaa ctaaaaaata a 1521

<210> 197  
 <211> 369  
 <212> PRT  
 <213> Homo sapiens

<400> 197  
 Met Lys Lys Ile Phe Leu Phe Leu Phe Ile Ser Phe Tyr Leu Phe Gly  
 1 5 10 15  
 Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu  
 20 25 30  
 Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile  
 35 40 45  
 Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys  
 50 55 60  
 Asp Val Ala Thr Tyr Ser Phe Arg Thr Leu Ser Tyr Asn Lys Val Asn  
 65 70 75 80  
 Gly Asp Glu Ile Arg Ile Leu Asn Gly Arg Val Ile Lys Asn Lys Glu  
 85 90 95  
 Leu Leu Ser Leu Thr Ser Ser Thr Pro Val Pro Asn Lys Lys Phe Gly  
 100 105 110  
 Glu Ala Phe His Ile Leu Ile Pro Lys Lys Leu Lys Tyr Gly Phe Pro  
 115 120 125  
 Asn Phe Ser Thr Arg Ser Gly Asp Ile Asp Leu Glu Val Leu Lys Ser  
 130 135 140  
 Lys Lys Glu Pro Phe Trp Phe Ser Ile Arg Ser Phe Glu Lys Lys Tyr  
 145 150 155 160  
 Asn Asp Tyr Leu Gly Arg Tyr Gln Asp Asn Ala Tyr Glu Leu Leu Phe  
 165 170 175  
 Lys Asp Asp Gln Asn Gln Gly Lys Ile Glu Phe Asn Glu Leu Lys Asp  
 180 185 190  
 Thr Phe Thr Lys Phe Ser Asp Glu Val Val Ile Ala Asn Asn Gly Ile  
 195 200 205  
 Asp Ile Val Asp Lys Ile Asn Lys Ile Leu Lys Asn Ser Glu Asp Ser  
 210 215 220  
 Val Tyr Asp Leu Asp Leu Val Leu Val Val Asp Val Thr Asp Ser Met

225		230		235		240
Lys Ser Asn Ile Glu Ile Leu Lys Glu His Leu Phe Ser Ile Ile Glu						
	245			250		255
Pro Gln Leu Gln Lys Phe Lys Ser Tyr Arg Ile Gly Leu Val Phe Tyr						
	260		265			270
Lys Asp Tyr Leu Glu Asp Phe Leu Thr Lys Ala Phe Asp Phe Asn Thr						
	275		280			285
Ile Pro Tyr Leu Asn Asn Ile Leu Lys Tyr Val Asn Val Gly Gly Gly						
	290		295			300
Gly Asp Tyr Pro Glu Ala Val Phe Glu Gly Ile Asp Ala Ala Val Thr						
	305		310		315	320
Gln Phe Asp Trp Arg Ala Glu Arg Arg Phe Ile Ile Val Ile Gly Asp						
		325		330		335
Ala Pro Pro His Glu Tyr Pro Arg Gly Ser Ile Val Tyr Lys Asp Val						
		340		345		350
Ile Asn Ser Ala Lys Glu Lys Asp Ile Thr Ile Tyr Gly Ile Ile Phe						
	355		360			365

Gln

<210> 198  
 <211> 353  
 <212> PRT  
 <213> Homo sapiens

<400> 198
Phe Glu Asp Ser Ser Leu Lys Ile Gly Ile Asp Asp Val Tyr Val Glu
1 5 10 15
Ala His Glu Glu Gly Phe His Leu Phe Ile Arg Lys Lys Pro Ala Ile
20 25 30
Lys Ser Val Ile Leu Thr Glu Ser Phe Glu Ile Pro Asp Lys Lys Lys
35 40 45
Asp Val Ala Thr Tyr Ser Phe Arg Thr Leu Ser Tyr Asn Lys Val Asn
50 55 60
Gly Asp Glu Ile Arg Ile Leu Asn Gly Arg Val Ile Lys Asn Lys Glu
65 70 75 80
Leu Leu Ser Leu Thr Ser Ser Thr Pro Val Pro Asn Lys Lys Phe Gly
85 90 95
Glu Ala Phe His Ile Leu Ile Pro Lys Lys Leu Lys Tyr Gly Phe Pro
100 105 110
Asn Phe Ser Thr Arg Ser Gly Asp Ile Asp Leu Glu Val Leu Lys Ser
115 120 125
Lys Lys Glu Pro Phe Trp Phe Ser Ile Arg Ser Phe Glu Lys Lys Tyr

130	135	140
Asn Asp Tyr Leu Gly Arg Tyr Gln Asp Asn Ala Tyr Glu Leu Leu Phe 145 150 155 160		
Lys Asp Asp Gln Asn Gln Gly Lys Ile Glu Phe Asn Glu Leu Lys Asp 165 170 175		
Thr Phe Thr Lys Phe Ser Asp Glu Val Val Ile Ala Asn Asn Gly Ile 180 185 190		
Asp Ile Val Asp Lys Ile Asn Lys Ile Leu Lys Asn Ser Glu Asp Ser 195 200 205		
Val Tyr Asp Leu Asp Leu Val Leu Val Val Asp Val Thr Asp Ser Met 210 215 220		
Lys Ser Asn Ile Glu Ile Leu Lys Glu His Leu Phe Ser Ile Ile Glu 225 230 235 240		
Pro Gln Leu Gln Lys Phe Lys Ser Tyr Arg Ile Gly Leu Val Phe Tyr 245 250 255		
Lys Asp Tyr Leu Glu Asp Phe Leu Thr Lys Ala Phe Asp Phe Asn Thr 260 265 270		
Ile Pro Tyr Leu Asn Asn Ile Leu Lys Tyr Val Asn Val Gly Gly Gly 275 280 285		
Gly Asp Tyr Pro Glu Ala Val Phe Glu Gly Ile Asp Ala Ala Val Thr 290 295 300		
Gln Phe Asp Trp Arg Ala Glu Arg Arg Phe Ile Ile Val Ile Gly Asp 305 310 315 320		
Ala Pro Pro His Glu Tyr Pro Arg Gly Ser Ile Val Tyr Lys Asp Val 325 330 335		
Ile Asn Ser Ala Lys Glu Lys Asp Ile Thr Ile Tyr Gly Ile Ile Phe 340 345 350		

Gln

<210> 199  
 <211> 1110  
 <212> DNA  
 <213> Homo sapiens

<400> 199  
 atgaagaaaa ttttttttatt tcttttttatt agttttttatt tgttttgatt tgaagatagt 60  
 tctttgaaaa taggtattga tgatgtttat gttgaggctc atgaagaggg atttcatctt 120  
 tttattagaa aaaaacctgc aatcaaataca gtaattattga cagagtcttt tgaaattcct 180  
 gataagaaaa aagatgtggc tactttattca tttcgtacat taagttataa taaggttaat 240  
 ggagatgaaa ttcggatttt aaatggaaga gttattaaga ataaagaact tttatcattg 300  
 acatcttcca cccctgttcc taataaaaag tttggagaag cttttcatat attgattcca 360  
 aaaaaattaa aatatggatt tccaaatttt tcaacaagaa gtgggtgatat tgacttagaa 420  
 gtattaaaaa gtaaaaaaga gcccttttgg ttttctataa gatcttttga gaaaaaatat 480  
 aatgattatt tgggcagata tcaagacaat gcttatgaat tgcttttcaa ggatgatcaa 540  
 aatcagggaa aaattgaatt taatgaatta aaagatactt ttacaaaatt ttcagatgag 600

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gttggttattg ctaataatgg cattgatatt gttgataaaa taaacaaaat tttaaaaaac 660
tcagaagatt cagtttatga tttagattta gtgcttggtg ttgatgttac tgatagtatg 720
aaaagcaata ttgagattct aaaagagcat ttgttttcaa taatagaacc tcaacttcaa 780
aagttttaa cctacagaat aggtcttggt ttttataaag actatcttga agatttttta 840
accaaagctt ttgattttta tactattcct tatttaaata atattcttaa gtatgttaat 900
gttgggtggcg gtgggggatta tccagaagct gtttttgagg ggattgatgc tgctgtgacc 960
caatttgatt ggcgggcaga aagaagggtt attattgtta taggagatgc acctcctcat 1020
gagtatccaa gaggggtctat tgtttataaa gatgttatca attctgcaaa ggaaaaaagat 1080
attacaattt atggaataat atttcagtaa 1110

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<210> 200  
 <211> 1062  
 <212> DNA  
 <213> Homo sapiens

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<400> 200
tttgaagata gttctttgaa aataggtatt gatgatgttt atgttgaggc tcatgaagag 60
ggatttcac tttttattag aaaaaaacct gcaatcaaat cagtaaatatt gacagagtct 120
tttgaaattc ctgataagaa aaaagatgtg gctacttatt catttcgtac attaagttat 180
aataagggtta atggagatga aattcggatt ttaaattggaa gagttattaa gaataaagaa 240
cttttatcat tgacatcttc caccctgtt cctaataaaa agtttgagaga agcttttcat 300
atattgattc caaaaaaatt aaaatatgga tttccaaatt tttcaacaag aagtgggtgat 360
attgacttag aagtattaaa aagtaaaaaa gagccctttt ggttttctat aagatctttt 420
gagaaaaaat ataattgatta tttgggcaga tatcaagaca atgcttatga attgcttttc 480
aaggatgatc aaaatcaggg aaaaattgaa tttaatgaat taaaagatac ttttacaaaa 540
ttttcagatg aggttggttat tgctaataat ggcattgata ttgttgataa aataaacaaa 600
attttaaaaa actcagaaga ttcagtttat gatttagatt tagtgcttgt tgttgatgtt 660
actgatagta tgaaaagcaa tattgagatt ctaaaagagc atttgttttc aataatagaa 720
cctcaacttc aaaagtttaa atcctacaga ataggtcttg ttttttataa agactatctt 780
gaagattttt taaccaaaagc ttttgatttt aatactattc cttattttaa taatattctt 840
aagtatgtta atgttggttg cggtggggat tatccagaag ctgtttttga ggggattgat 900
gctgctgtga cccaatttga ttggcgggca gaaagaaggt ttattattgt tataggagat 960
gcacctctc atgagtatcc aagaggggtc attgtttata aagatgttat caattctgca 1020
aaggaaaaag atattacaat ttatggaata atatttcagt aa 1062

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<210> 201  
 <211> 310  
 <212> PRT  
 <213> Homo sapiens

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<400> 201
Met Ile Phe Phe Arg Asn Ser Phe Met Ala Leu Ile Phe Ser Phe Ser
  1             5             10             15

Ile Leu Ser Ile Ser Tyr Phe Phe Gly Asp Phe Phe Gln Phe Ser Tyr
      20             25             30

Ile Lys Met Ile Ser Trp Arg Phe Ile Leu Phe Leu Ile Met Ala Thr
      35             40             45

Gly Ile Ala Thr Cys Ala Lys Ser Asn Ser Leu Asn Leu Gly Asn Glu
      50             55             60

Gly Gln Ile Tyr Phe Gly Ala Phe Leu Val Tyr Ile Phe Ser Ser Phe
      65             70             75             80

Phe Gly Leu Thr Tyr Phe Asn Phe Val Phe Leu Ile Leu Leu Ser Ser
      85             90             95

Phe Phe Val Gly Leu Leu Gly Leu Ile Pro Phe Phe Ile Thr Phe Phe

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<210> 204  
 <211> 774  
 <212> DNA  
 <213> Homo sapiens

<400> 204  
 gccaaagagta attcattaata tcttgggaat gaagggtcaga tttatttttgg ggcatttttta 60  
 gtttatatat tttcaagttt ttttgggatta acctatttta attttgtatt tttgatactt 120  
 ttaagttcctt tttttgtagg acttttgggg cttatccctt tttttattac ttttttcttc 180  
 ggattaaata aagccttaac aggtctttta atatcttatg gaaatcaaaag attgggtggat 240  
 ggatttattt taaatatgtt aaaaacagggt agtttttcta atcagacaaa aaggattaat 300  
 agtttgtttg ctttagattc atcacttatt tacttgtttt tgcttggtgt atcagtttgg 360  
 cttttttatg tttttattca caaaaaaact atttatgggc ttcagcttga aatattaagc 420  
 aataaaaaaa agatagacat ttttttcaat ataaatgaat ttaaatataa gtttttcgct 480  
 gtatttggca gtgctttttt aaatgggtct gcagggttcta tgtttgtagt gttttttaga 540  
 ccatatttgg ttttagggct aacttcagga cttggttgga gtagtcta attggtgctga 600  
 atttcaggat ttaattatgt ttatgtatta ttttttagct tattgttttc aatattaatt 660  
 gaatttaata attttcttaa tataaattat gactttaagt atgaatttat tgggctttgt 720  
 caatcaattg ctatttttat ctctttattt ttgattaaag ctaggaaaaa gtag 774

<210> 205  
 <211> 364  
 <212> PRT  
 <213> Homo sapiens

<400> 205  
 Met Val Val Glu Ile Asn Ser Leu Arg Thr Cys Tyr Leu Leu Val Leu  
 1 5 10 15  
 Leu Leu Leu Val Ala Tyr Gly Leu Val Val Phe Tyr Thr Ser Ser Phe  
 20 25 30  
 Phe Leu Ser Leu Glu Leu Thr Gly Asn Pro Asn Phe Leu Phe Phe Thr  
 35 40 45  
 Arg Leu Asn Tyr Leu Phe Leu Ser Phe Met Val Phe Leu Val Phe Glu  
 50 55 60  
 Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile  
 65 70 75 80  
 Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser  
 85 90 95  
 Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser  
 100 105 110  
 Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser  
 115 120 125  
 Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro  
 130 135 140  
 Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp  
 145 150 155 160  
 Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe  
 165 170 175

Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe  
 180 185 190  
 Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser  
 195 200 205  
 Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly  
 210 215 220  
 Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu  
 225 230 235 240  
 Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu  
 245 250 255  
 Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 260 265 270  
 Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 275 280 285  
 Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 290 295 300  
 Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 305 310 315 320  
 Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 325 330 335  
 Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 340 345 350  
 Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 355 360  
 <210> 206  
 <211> 300  
 <212> PRT  
 <213> Homo sapiens  
 <400> 206  
 Arg Ile Ser Leu Asn Phe Leu Lys Lys Ser Ile Phe Pro Val Leu Ile  
 1 5 10 15  
 Ile Thr Leu Phe Leu Ile Met Ala Thr Phe Leu Ser Pro Ser Ile Ser  
 20 25 30  
 Gly Ala Lys Arg Trp Ile Phe Phe Gln Gly Val Ser Ile Gln Pro Ser  
 35 40 45  
 Glu Ile Phe Lys Ile Ser Phe Thr Ile Tyr Leu Ser Ala Tyr Leu Ser  
 50 55 60  
 Lys Phe Asp Pro Arg Lys Asn Asn Gly Ile Ser Tyr Trp Ile Lys Pro  
 65 70 75 80  
 Met Leu Ile Phe Ala Ile Phe Trp Val Leu Ile Ile Leu Gln Asn Asp  
 85 90 95

Tyr Ser Thr Ala Ile Tyr Phe Ala Ile Leu Phe Phe Ile Val Leu Phe  
 100 105 110  
 Val Ser Asn Met Ala Phe Ser Tyr Val Phe Ala Ile Val Val Thr Phe  
 115 120 125  
 Leu Pro Val Ser Ala Ile Phe Leu Met Leu Glu Pro Tyr Arg Val Ser  
 130 135 140  
 Arg Ile Phe Ala Phe Leu Asn Pro Tyr Asp Asp Pro Ser Gly Lys Gly  
 145 150 155 160  
 Tyr Gln Ile Ile Ala Ser Leu Asn Ala Leu Lys Ser Gly Gly Ile Leu  
 165 170 175  
 Gly Lys Gly Leu Gly Met Gly Glu Val Lys Leu Gly Lys Leu Pro Glu  
 180 185 190  
 Ala Asn Ser Asp Phe Ile Phe Ser Val Leu Gly Glu Glu Leu Gly Phe  
 195 200 205  
 Leu Gly Val Leu Phe Ala Ile Ser Leu Phe Phe Leu Phe Phe Tyr Phe  
 210 215 220  
 Gly Tyr Phe Ile Ala Ile His Ser Asn Ser Arg Phe Lys Phe Phe Ile  
 225 230 235 240  
 Ala Phe Ile Ser Ser Leu Ala Ile Phe Leu Gln Ser Met Met Asn Ile  
 245 250 255  
 Leu Ile Ala Ile Gly Leu Leu Pro Pro Thr Gly Ile Asn Leu Pro Phe  
 260 265 270  
 Phe Ser Ser Gly Gly Ser Ser Ile Ile Val Thr Met Ala Leu Ser Gly  
 275 280 285  
 Leu Ile Ser Asn Val Ser Lys Asn Leu Ser Asn Asn  
 290 295 300

<210> 207  
 <211> 1095  
 <212> DNA  
 <213> Homo sapiens

<400> 207  
 atggttgtag agataaattc acttaggaca tggtatttgc ttgttttgct gctattggta 60  
 gcctatggcc ttgtagtttt ttatacttct tccttttttc taagcttaga attgacaggt 120  
 aatccaaatt ttttattttt cacaagactt aattatcttt ttttaagttt tatggttttt 180  
 cttgtttttg aaaggatttc tttaaatttt ttaaaaaaat caatatttcc tgtattgatt 240  
 ataactcttt ttttaattat ggcaactttt ttatctccaa gtatttctgg agcaaagaga 300  
 tggatattct ttcaaggtgt tagcattcaa ccttctgaga tttttaaaat atcttttact 360  
 atttatcttt cagcttattt gagcaagttt gacccaagaa aaaacaatgg tatttcatac 420  
 tggataaagc caatgttgat ttttgcaatt ttttggtgt taataatttt gcaaaacgat 480  
 tattcaacag ctatttattt tgccattctt ttttttattg ttttgtttgt ttctaataatg 540  
 gcatttagct atgtttttgc tattgtgggt acttttttac cagtttctgc tatattcttg 600  
 atgcttgaac cttatagggt ttctagaatt tttgcctttc tcaatcctta cgatgatcct 660  
 tctggcaaag gttaccagat aatagcatct cttaatgctt taaaaagtgg aggaatttta 720  
 ggtaaagggc tgggaatggg agaggtaaaa cttggaaaat taccagaggc caattcggat 780  
 tttatttttt cagttcttgg agaagaatta ggatttttag gggttttggt tgctataagc 840  
 ttgttttttt tggtttttta ctttgggttat tttatagcta ttcattctaa tagtagggtt 900

aaatTTTTTTT ttgcatttat ttcaagtctt gcaatTTTTTt ttcaaagcat gatgaatatt 960  
 ttaattgcaa tCGgtctttt gcctcctaca gggataaatt taccatTTTTt tTcatctggg 1020  
 ggatcttcta ttattgttac catggcattg tctggcctta tttcaaagtgt ttcaaaaaat 1080  
 ttaagtaata attga 1095

<210> 208  
 <211> 903  
 <212> DNA  
 <213> Homo sapiens

<400> 208  
 aggatttctt taaatTTTTt aaaaaaatca atatttcctg tattgattat aactctTTTTt 60  
 ttaattatgg caactTTTTt atctccaagt atttctggag caaagagatg gatattctttt 120  
 caagggtgta gcattcaacc ttctgagatt tttaaaatat cttttactat ttatctttca 180  
 gcttatttga gcaagtttga cccaagaaaa aacaatggta tttcatactg gataaagcca 240  
 atgttgattt ttgcaatttt ttgggtgtta ataattttgc aaaacgatta ttcaacagct 300  
 atttattttg ccattctttt ttttattgtt ttgtttgttt ctaatatggc atttagctat 360  
 gtttttgcta ttgtgggttac ttttttacca gtttctgcta tattcttgat gcttgaacct 420  
 tatagggttt ctagaatttt tgcctttctc aatccttacg atgaccttc tggcaaagggt 480  
 taccagataa tagcatctct taatgcttta aaaagtggag gaattttagg taaagggtctg 540  
 ggaatgggag aggtaaaact tggaaaatta ccagaggcca attcggattt tattttttca 600  
 gttcttggag aagaattagg atttttagggt gttttgtttg ctataagctt gttttttttg 660  
 tttttttact ttgggtattt tatagctatt cattctaata gtaggtttta attttttatt 720  
 gcatttatTTt caagtcttgc aatttttctt caaagcatga tgaatatttt aattgcaatc 780  
 ggtcttttgc ctctacagg gataaattta ccattttttt catctggggg atcttctatt 840  
 attgttacca tggcattgtc tggccttatt tcaaagtgtt caaaaaattt aagtaataat 900  
 tga 903

<210> 209  
 <211> 207  
 <212> PRT  
 <213> Homo sapiens

<400> 209  
 Met Lys Val Asn Asn Phe Leu Ser Phe Phe Phe Arg Ala Phe Phe Leu  
 1 5 10 15  
 Leu Phe Leu Ile Val Ile Leu Phe Phe Phe Val Leu Phe Phe Ile Asp  
 20 25 30  
 Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe Val Arg  
 35 40 45  
 Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn Ser Asn  
 50 55 60  
 Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala Ile Asp  
 65 70 75 80  
 Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys Leu Lys  
 85 90 95  
 Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys Gln Lys  
 100 105 110  
 Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn Lys Tyr  
 115 120 125  
 Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu Met Asn  
 130 135 140

Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn Pro Glu  
 145 150 155 160

Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys Lys Glu  
 165 170 175

Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp Ser Lys  
 180 185 190

Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu Glu  
 195 200 205

<210> 210

<211> 177

<212> PRT

<213> Homo sapiens

<400> 210

Ile Asp Phe Ile Gly Met Tyr Asn Thr Lys Arg Tyr Phe Pro Glu Phe  
 1 5 10 15

Val Arg Thr Lys Leu Leu Gly Glu Thr Ser Leu Val Phe Asp His Asn  
 20 25 30

Ser Asn Ile Ile Leu Asp Glu Ala Arg Leu Val Lys Glu Arg Glu Ala  
 35 40 45

Ile Asp Ile Lys Asn Gln Gln Ile Glu Lys Leu Lys Glu Asp Leu Lys  
 50 55 60

Leu Lys Glu Asp Ser Leu Asn Lys Leu Glu Phe Glu Leu Lys Gln Lys  
 65 70 75 80

Gln Lys Asp Leu Asp Leu Lys Gln Lys Ile Ile Asp Asp Ile Ile Asn  
 85 90 95

Lys Tyr Asn Asp Glu Glu Ala Asn Ile Leu Gln Thr Ala Val Tyr Leu  
 100 105 110

Met Asn Met Pro Pro Glu Asp Ala Val Lys Arg Leu Glu Asp Leu Asn  
 115 120 125

Pro Glu Leu Ala Ile Ser Tyr Met Arg Lys Ile Glu Glu Leu Ser Lys  
 130 135 140

Lys Glu Gly Arg Leu Ser Ile Val Pro Tyr Trp Leu Ser Leu Met Asp  
 145 150 155 160

Ser Lys Lys Ala Ala Ile Leu Ile Arg Lys Met Ser Val Ser Ser Leu  
 165 170 175

Glu

<210> 211

<211> 624

<212> DNA

<213> Homo sapiens

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agatatttcc ccgaatttgt aagaaccaag ttgttaggag aaacttctct ggtctttgat 180  
cataattcta atataattct tgatgaagct agacttgtga aggaaagaga agctattgat 240  
attaagaatc agcagattga aaagcttaaa gaagatctaa agttaaaga agacagttaa 300  
aataagcttg aatttgagct taagcaaaaag cagaaagatt tagatttaaa acaaaaaata 360  
atagatgaca ttataaataa atataatgat gaggaagcaa atattttgca aacagctgta 420  
tatttaatga atatgccacc agaagatgct gttaagcggc ttgaagattt aaatcccag 480  
cttgcaatat cttatatgcg gaaaattgaa gagctttcca aaaaagaagg tcgtttatca 540  
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<210> 212  
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<212> DNA  
<213> Homo sapiens

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gaagatctaa agttaaaga agacagttaa aataagcttg aatttgagct taagcaaaaag 240  
cagaaagatt tagatttaaa acaaaaaata atagatgaca ttataaataa atataatgat 300  
gaggaagcaa atattttgca aacagctgta tatttaatga atatgccacc agaagatgct 360  
gttaagcggc ttgaagattt aaatcccag cttgcaatat cttatatgcg gaaaattgaa 420  
gagctttcca aaaaagaagg tcgtttatca attgttcctt attggttatt tcttatggat 480  
tctaaaaaag ctgctatatt gattagaaaa atgtctgtta gttcattgga gtag 534

<210> 213  
<211> 242  
<212> PRT  
<213> Homo sapiens

<400> 213  
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Ile Met Ser Ala Ser Phe Thr Gly Ala Gly Phe Phe Lys Gly Gly Lys  
35 40 45  
Thr Leu Asp Phe Ser Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser  
50 55 60  
Leu Pro Ser Thr Val Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn  
65 70 75 80  
Lys Ser Met Ile Glu Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val  
85 90 95  
Val Arg Gln Glu Glu Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala  
100 105 110  
Phe Phe Asp Ser Ala Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp  
115 120 125  
Ser Ile Gln Lys Ile Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly



130                      135                      140  
 Tyr Asn Phe Lys Ile Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val  
 145                      150                      155                      160  
 Asn Gly Pro Trp Lys Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val  
 165                      170                      175  
 Asn Met Leu Glu His Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys  
 180                      185                      190  
 Arg Ile Glu Asn Asn Phe Glu Val Ser Gly Phe Gly Gly Ser Arg Pro  
 195                      200                      205  
 Ile Ala Thr Asp Asp Thr Pro Glu Gly Arg Ala Tyr Asn Arg Arg Ile  
 210                      215                      220  
 Asp Ile Leu Ile Thr Thr Asp Ala Ser Leu Ser Phe Pro Lys Glu Ile  
 225                      230                      235                      240

Lys Gln

<210> 214  
 <211> 221  
 <212> PRT  
 <213> Homo sapiens

<400> 214  
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 20                      25                      30  
 Lys Leu Ser Tyr Leu Ser Asn Ser Phe Met Ser Leu Pro Ser Thr Val  
 35                      40                      45  
 Arg Asn Lys Gln Ala Ser Gln Thr Ala Lys Asn Lys Ser Met Ile Glu  
 50                      55                      60  
 Phe Ile Glu Lys Ile Gln Ser Lys Asn Ile Val Val Arg Gln Glu Glu  
 65                      70                      75                      80  
 Arg Gly Ile Val Ile Ser Leu Ala Ala Asp Ala Phe Phe Asp Ser Ala  
 85                      90                      95  
 Ser Ala Asp Val Lys Leu Glu Glu Asn Arg Asp Ser Ile Gln Lys Ile  
 100                      105                      110  
 Ala Ser Phe Ile Gly Phe Leu Ser Pro Arg Gly Tyr Asn Phe Lys Ile  
 115                      120                      125  
 Glu Gly His Thr Asp Asn Ile Asp Thr Asp Val Asn Gly Pro Trp Lys  
 130                      135                      140  
 Ser Asn Trp Glu Leu Ser Ala Ala Arg Ser Val Asn Met Leu Glu His  
 145                      150                      155                      160  
 Ile Leu Asn Tyr Leu Asp Gln Ser Asp Val Lys Arg Ile Glu Asn Asn



20										25										30																																		
Phe	Val	Asn	Ile	Ile	Gln	Val	Gly	Phe	Phe	Ile	Thr	Phe	Lys	Ser	Leu																																							
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Glu	Pro	Arg	Trp	Asp	Lys	Ile	Ser	Phe	Asn	Phe	Ser	Arg	Trp	Ala	Lys																																							
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Leu	Lys	Val	Val	Ile	Ile	Cys	Leu	Ile	Tyr	Tyr	Phe	Ile	Ile	Glu	Asn																																							
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Gln	Tyr	Ile	Glu	Ser	Leu	Lys	Met	Thr	Lys	Glu	Glu	Val	Lys	Gln	Glu																																							
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Arg	Lys	Glu	Met	Glu	Gly	Asp	Pro	Leu	Leu	Arg	Ser	Arg	Ile	Lys	Glu																																							
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Trp	Asp	Ser	Glu	Thr	Met	Leu	Ala	Pro	Lys	Val	Leu	Ala	Lys	Gly	Gln																																							
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Pro	Leu	Met	Glu	Asn	Lys	Leu	Leu	Ala	Arg	Ala	Leu	Tyr	Ala	Asn	Val																																							
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<213> Homo sapiens																																																						
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Trp	Asp	Ser	Glu	Thr	Met	Leu	Ala	Pro	Lys	Val	Leu	Ala	Lys	Gly	Gln																																								
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	225				230				235					240																																									
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<210> 219  
 <211> 858  
 <212> DNA  
 <213> Homo sapiens

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 ttttttatta cttttaaatc ttttgagcca aggtgggata aaattagttt taatttttcc 180  
 agatgggcaa aaaattcttt tttttcagca ggggcttttt tcaatttggt taaaagtttg 240  
 ttaaaagttg ttataatatg cttgatatat tattttatta tagaaaacaa tataggcaaa 300  
 atttctaagc tttcggagta tacacttcaa tctggaattt ctattgtgtt agtgattgcc 360  
 tataagatat gttttttttc agtaatgttt ttggcaattg taggggtgtt tgattatttg 420  
 tttcaaagat ctcagtacat tgagagtttg aaaatgacaa aagaagaggt aaagcaggaa 480  
 agaaaggaaa tggaaggtga tcctttactt cgatctagaa taaaagagag aatgagggtt 540  
 attttaagta ccaatttaag agtagctatt cctcaagcag atgtagtaat tacaaatcca 600

gaacattttg cagttgctat taaatgggat agcgaaacaa tgtagctcc aaagggtgctt 660  
gcaaaaggctc aagatgaaat agctctcaca attaaaaaaa ttgcaagaga aaataatggt 720  
cctttaatgg aaaataagct ccttgcaaga gctctttatg ctaatgttaa ggtaaatgaa 780  
gagattccaa gagaatattg ggagattggt tcaaaaattc ttgtgagagt atattctatt 840  
actaaaaagt ttaattag 858

<210> 220  
<211> 762  
<212> DNA  
<213> Homo sapiens

<400> 220  
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gataaaatta gttttaattt ttccagatgg gcaaaaaatt cttttttttc agcaggggct 120  
tttttcaatt tgtttaaaag tttgttaaaa gttgttataa tatgcttgat atattatatt 180  
attatagaaa acaatatagg caaaatttct aagcttttcgg agtatacact tcaatctgga 240  
atttctattg tgtagtgat tgcctataag atatgttttt tttcagtaat gtttttggca 300  
attgtagggg tgtttgatta tttgtttcaa agatctcagt acattgagag tttgaaaatg 360  
acaaaagaag aggtaaagca ggaaagaaag gaaatgggaag gtgatccttt acttcgatct 420  
agaataaaag agagaatgag gggtatttta agtaccatt taagagtagc tattcctcaa 480  
gcagatgtag taattacaaa tccagaacat tttgcagttg ctattaaatg ggatagcgaa 540  
acaatgttag ctccaaagggt gcttgcaaaa ggtcaagatg aaatagctct cacaattaaa 600  
aaaattgcaa gagaaaataa tggtccttta atggaaaata agctccttgc aagagctctt 660  
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attcctgtga gagtatattc tattactaaa aagtttaatt ag 762

<210> 221  
<211> 155  
<212> PRT  
<213> Homo sapiens

<400> 221  
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20 25 30  
Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met Gln Gly Leu Gly  
35 40 45  
Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile Phe Ser Ala Ser  
50 55 60  
Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile Ser Phe Leu Ser  
65 70 75 80  
Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys His Lys Glu Phe  
85 90 95  
Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile Asn Leu Gly Ala  
100 105 110  
Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn Phe Phe Phe Lys  
115 120 125  
Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile Tyr Leu Phe Ala  
130 135 140  
Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile

145

150

155

<210> 222  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

&lt;400&gt; 222

Ile Thr Gly Ile Leu Ile Leu Met Leu Glu Phe Asn Phe Leu Lys Val  
 1 5 10 15

Asp Phe Lys Gly Asn Ile Leu Leu Ala Gly Ile Phe Met Gly Leu Met  
 20 25 30

Gln Gly Leu Gly Ala Leu Pro Gly Ile Ser Arg Ser Gly Ile Thr Ile  
 35 40 45

Phe Ser Ala Ser Val Ile Gly Phe Asn Arg Lys Ser Ala Phe Glu Ile  
 50 55 60

Ser Phe Leu Ser Leu Ile Pro Ile Val Phe Gly Ala Ile Leu Leu Lys  
 65 70 75 80

His Lys Glu Phe Tyr Asp Ile Phe Met Val Leu Asn Phe Phe Glu Ile  
 85 90 95

Asn Leu Gly Ala Leu Val Ala Phe Val Val Gly Ile Phe Ser Ile Asn  
 100 105 110

Phe Phe Phe Lys Met Leu Asn Asn Lys Lys Leu Tyr Tyr Phe Ser Ile  
 115 120 125

Tyr Leu Phe Ala Leu Ser Ile Ile Val Cys Tyr Phe Val Arg Ile  
 130 135 140

<210> 223  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 223

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 ctagaattta attttttaaa agttgatttt aaaggtaata ttttgtttagc aggaattttt 120  
 atggggctga tgcaaggcct gggtgcgctt ccaggaatct ctcgttcagg aattacgatc 180  
 ttttcggcat cggttattgg atttaataga aaaagtgcac ttgaaatttc atttttatct 240  
 ttaattccaa tagtttttgg agcgatttta ttaaaacata aagaatttta tgatattttt 300  
 atgggtttta atttttttga aataaactta ggagcattag ttgcttttgt tgttggtatt 360  
 ttctcaataa atttcttttt taaaatgctt aataacaaaa aactgtatta tttttctata 420  
 tatttatattg cactttcaat tatagtttgt tattttgtta gaatatga 468

<210> 224  
 <211> 432  
 <212> DNA  
 <213> Homo sapiens

&lt;400&gt; 224

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 aatattttgt tagcaggaat ttttatgggg ctgatgcaag gcttgggtgc gcttccagga 120  
 atctctcggt caggaattac gatcttttcg gcacgcgtta ttggatttaa tagaaaaagt 180  
 gcatttgaaa tttcattttt atctttaatt ccaatagttt ttggagcgat tttattaaaa 240

cataaagaat tttatgatat ttttatgggt ttaaattttt ttgaaataaa cttaggagca 300  
 ttagttgctt ttgttggtgg tattttctca ataaatttct tttttaaact gcttaataac 360  
 aaaaaactgt attatttttc tatatatatta ttgcacttt caattatagt ttgttatttt 420  
 gttagaatat ga 432

<210> 225  
 <211> 507  
 <212> PRT  
 <213> Homo sapiens

<400> 225  
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 20 25 30  
 Ser Ile Lys Ala Thr Ile Lys Lys Leu Lys Thr Pro Ile Leu Leu Thr  
 35 40 45  
 Ser Phe Thr Thr Ala Phe Gly Phe Leu Ser Leu Thr Thr Ser Ser Ile  
 50 55 60  
 Asn Ala Tyr Lys Thr Met Gly Ile Phe Met Ser Ile Gly Val Ile Ile  
 65 70 75 80  
 Ser Met Ile Ile Ser Leu Thr Val Leu Pro Gly Ile Ile Thr Leu Ile  
 85 90 95  
 Pro Phe Ala Lys Lys Lys Ser Phe Glu Lys Glu Lys Glu Asn Lys Leu  
 100 105 110  
 Asn Lys Ile Ser Phe Leu Glu Arg Leu Ala Lys Leu Asn Thr Gln Ile  
 115 120 125  
 Thr Lys Ser Ile Leu Lys Arg Lys Tyr Thr Ser Ser Ile Met Val Leu  
 130 135 140  
 Ile Ile Leu Gly Ile Ser Phe Val Gly Leu Leu Lys Ile Glu Ile Asn  
 145 150 155 160  
 Phe Asp Glu Lys Asp Tyr Phe Lys Glu Ser Thr Ser Val Lys Lys Thr  
 165 170 175  
 Leu Asn Leu Met Gln Lys Glu Met Gly Gly Ile Ser Ile Phe Lys Ile  
 180 185 190  
 Glu Ile Glu Gly Arg Pro Gly Glu Phe Lys Asn Ala Lys Ala Met Gln  
 195 200 205  
 Ile Leu Asp Leu Ile Thr Asp Lys Leu Asp Ala Phe Ser Ala Lys Thr  
 210 215 220  
 Gln Ser Ser Ser Ile Asn Gly Ile Leu Lys Phe Thr Asn Phe Lys Ile  
 225 230 235 240  
 Lys Lys Glu Ser Pro Leu Glu Tyr Lys Leu Pro Glu Asn Lys Ile Ile  
 245 250 255  
 Leu Asn Lys Leu Ile Asn Leu Ile Asp Lys Ser Asp Trp Thr Lys Asp





35					40					45					
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Ser	Ile	Leu	Lys	Arg	Lys	Tyr	Thr	Ser	Ser	Ile	Met	Val	Leu	Ile	Ile
65					70					75					80
Leu	Gly	Ile	Ser	Phe	Val	Gly	Leu	Leu	Lys	Ile	Glu	Ile	Asn	Phe	Asp
				85					90					95	
Glu	Lys	Asp	Tyr	Phe	Lys	Glu	Ser	Thr	Ser	Val	Lys	Lys	Thr	Leu	Asn
			100					105					110		
Leu	Met	Gln	Lys	Glu	Met	Gly	Gly	Ile	Ser	Ile	Phe	Lys	Ile	Glu	Ile
		115					120					125			
Glu	Gly	Arg	Pro	Gly	Glu	Phe	Lys	Asn	Ala	Lys	Ala	Met	Gln	Ile	Leu
	130					135					140				
Asp	Leu	Ile	Thr	Asp	Lys	Leu	Asp	Ala	Phe	Ser	Ala	Lys	Thr	Gln	Ser
145					150					155					160
Ser	Ser	Ile	Asn	Gly	Ile	Leu	Lys	Phe	Thr	Asn	Phe	Lys	Ile	Lys	Lys
				165					170					175	
Glu	Ser	Pro	Leu	Glu	Tyr	Lys	Leu	Pro	Glu	Asn	Lys	Ile	Ile	Leu	Asn
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Lys	Leu	Ile	Asn	Leu	Ile	Asp	Lys	Ser	Asp	Trp	Thr	Lys	Asp	Asn	Lys
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225					230					235					240
Ile	Asn	Thr	Ile	Asn	Glu	Tyr	Met	Lys	Asn	Asn	Lys	Tyr	His	Phe	Ser
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Gly	Val	Tyr	Asp	Lys	Val	Leu	Ile	Ala	Lys	Thr	Met	Val	Lys	Glu	Gln
			260					265					270		
Val	Ile	Asn	Ile	Ile	Thr	Thr	Leu	Gly	Ser	Ile	Thr	Leu	Leu	Leu	Met
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Phe	Phe	Phe	Lys	Ser	Ile	Lys	Thr	Gly	Ile	Ile	Ile	Ala	Ile	Pro	Val
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305					310					315					320
Thr	Leu	Asn	Pro	Ala	Thr	Ala	Thr	Ile	Ala	Ser	Val	Ser	Met	Gly	Val
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Gly	Val	Asp	Tyr	Ser	Ile	His	Phe	Phe	Asn	Thr	Phe	Ile	Leu	Gln	Tyr
			340					345					350		
Gln	Lys	Asn	Gln	Ile	Tyr	Lys	Thr	Ala	Leu	Leu	Glu	Ser	Ile	Pro	Asn

355

360

365

Val Phe Asn Gly Ile Phe Ala Asn Ser Ile Ser Val Gly Ile Gly Phe  
370 375 380

Leu Thr Leu Thr Phe Ser Ser Tyr Lys Ile Ile Ser Thr Leu Gly Ala  
385 390 395 400

Ile Ile Ala Phe Thr Met Leu Thr Thr Ser Leu Ala Ser Leu Thr Leu  
405 410 415

Leu Pro Leu Leu Ile Tyr Leu Phe Lys Pro Arg Val Lys Leu Ala Ser  
420 425 430

Asn Asn Asn Phe Lys Lys Leu Lys Gln  
435 440

&lt;210&gt; 227

&lt;211&gt; 1524

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 227

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gcaaattcta tttctgttgg aataggattt ttaactctaa cattttcgtc ttataaaaata 1380
atatcaactc ttggagcaat aattgctttt acaatgctaa cgacatctct tgcatacata 1440
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aattttaaaa aattaaaaaa ataa 1524

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&lt;210&gt; 228

&lt;211&gt; 1326

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 228

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accgttttac ctggaataat aacattaatc ccatttgcaa aaaaaaagtc ttttgaaaaa 120
gaaaaagaaa ataaactaaa taaaatatcc ttccttgaaa gacttgccaa actaaatacg 180
caaataacaa aatctatatt aaaaagaaaa tatacatcct ctataatggt cctcatcata 240

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ctgggaattt cttttgtagg tcttttaaaa atcgaaatca attttgatga aaaagattac 300  
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 atatcgattt tcaaaataga aattgaaggc aggcccggtg aatttataaaa tgctaaagca 420  
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 attaacacaa ttaatgaata tatgaaaaat aataaatatc atttctcagg tgtttatgat 780  
 aaggatttaa tagctaaaac aatggtaaaa gaacagggtt taaacattat aacaactctt 840  
 ggatcaataa cactactact tatgtttttc tttaaatcta taaaaaccgg aataattatt 900  
 gcaatcccag tagcatggtc agtgttttta aactttgctg taatgagatt atttgggata 960  
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<210> 229

<211> 254

<212> PRT

<213> Homo sapiens

<400> 229

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Phe Ser Ser Ser Pro Glu Ile Pro Gly Glu Ile Ile Lys Gly Gly Tyr  
 35 40 45

Thr Asn Ile Val Phe Gly Trp Gly Leu Gly Val Thr Phe Gly Ile Tyr  
 50 55 60

Thr Ala Ala Arg Met Ser Gly Ala His Leu Asn Pro Ala Val Ser Ile  
 65 70 75 80

Gly Leu Ala Ser Val Gly Lys Phe Pro Val Ser Lys Leu Leu His Tyr  
 85 90 95

Ile Val Ala Gln Ile Leu Gly Ala Phe Thr Gly Ala Leu Met Thr Leu  
 100 105 110

Val Val Phe Tyr Pro Lys Trp Ile Glu Met Asp Pro Gly Leu Glu Asn  
 115 120 125

Thr Gln Gly Ile Met Ala Thr Phe Pro Ala Val Pro Gly Phe Leu Pro  
 130 135 140

Gly Phe Ile Asp Gln Ile Phe Gly Thr Phe Leu Leu Met Phe Leu Ile  
 145 150 155 160

Ser Val Val Gly Asp Phe Thr Lys Lys His Ser Asp Asn Pro Phe Ile  
 165 170 175

Pro Phe Ile Val Gly Ala Val Val Leu Ser Ile Gly Ile Ser Phe Gly

[illegible]

210

<210> 231  
 <211> 765  
 <212> DNA  
 <213> Homo sapiens

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 ggagaaataa taaaaggagg atatacaaat atagtatttg gatggggatt ggggtgtaacg 180  
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 gaaatggatc ctggcttaga aaatactcaa ggaataatgg caactttccc tgctgttcct 420  
 ggatttttgc ctggatttat tgatcaaatt tttggaactt ttttgctaatt gtttttaatt 480  
 tctgttggtg gagattttac aaaaaaacac agcgacaatc catttattcc ttttattgta 540  
 ggagcagtgg ttttatcaat agggataagt ttcggaggaa tgaacgggta tgctattaat 600  
 cctgcaaggg atctgggacc aagaatttta ctcttatttg ctggatttaa aaatcacgga 660  
 tttacaatc taagtatatg tattgtacca ataattggcc caataattgg agcaattttg 720  
 ggagctacaa tttacgaatt tacactaaaa aataacaaag actaa 765

<210> 232  
 <211> 645  
 <212> DNA  
 <213> Homo sapiens

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 ggattagcaa gtgttggaag gtttcccgtt tcaaaacttt tacattacat tgtagcacia 180  
 atattaggag cttttacagg tgcattaatg acacttgctg tattttatcc taaatggata 240  
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 ggatttttgc ctggatttat tgatcaaatt tttggaactt ttttgctaatt gtttttaatt 360  
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 ggagcagtgg ttttatcaat agggataagt ttcggaggaa tgaacgggta tgctattaat 480  
 cctgcaaggg atctgggacc aagaatttta ctcttatttg ctggatttaa aaatcacgga 540  
 tttacaatc taagtatatg tattgtacca ataattggcc caataattgg agcaattttg 600  
 ggagctacaa tttacgaatt tacactaaaa aataacaaag actaa 645

<210> 233  
 <211> 256  
 <212> PRT  
 <213> Homo sapiens

<400> 233  
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 Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
 20 25 30  
 Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
 35 40 45  
 Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
 50 55 60  
 Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
 65 70 75 80

Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
85 90 95

Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
100 105 110

Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
115 120 125

Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
130 135 140

Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
145 150 155 160

Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
165 170 175

Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
180 185 190

Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
195 200 205

Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
210 215 220

Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
225 230 235 240

Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
245 250 255

<210> 234

<211> 256

<212> PRT

<213> Homo sapiens

<400> 234

Met Arg Arg Leu Phe Leu Leu Tyr Ile Leu Cys Ser Phe Val Phe Leu  
1 5 10 15

Asn Leu Phe Ala Gln Gly Ser Ser Ser Tyr Ile Asp Lys Gln Lys Glu  
20 25 30

Leu Ala Ile Phe Tyr Tyr Glu Val Gly Gln Arg Tyr Ile Asn Val Gly  
35 40 45

Lys Ile Lys Lys Gly Lys Leu Phe Gln Ala Lys Ala Leu Lys Ile Tyr  
50 55 60

Pro Asp Leu Lys Lys Gly Phe Asp Ile Lys Leu Ala Val Lys Glu Leu  
65 70 75 80

Asp Ala Arg Ile Lys Asp Asp Asn Pro Lys Val Val Met Leu Glu Asp  
85 90 95

Ile Lys Leu Glu Glu Ile Pro Gly Ile Val His Glu Lys Ile Glu Ile  
100 105 110

Asn Asp Phe Thr Asn Ala Pro Lys Ile Glu Tyr Ile Ala Gln Arg Glu  
 115 120 125  
 Arg Ser Lys Asn Gln Asp Lys Ile Ile Lys Phe Gln Phe Gly Lys Phe  
 130 135 140  
 Ala Arg Ala Leu Ile Ser Arg Asn Phe Asp Leu Phe Asp Ser Val Ile  
 145 150 155 160  
 Ala Asp Lys Val Asn Val Met Gly Gln Phe Glu Ser Lys Asn Asp Phe  
 165 170 175  
 Ile Ser Thr Leu Ser Ser Ala Ser Ser Lys Ala Asp Ala Asp Glu Leu  
 180 185 190  
 Glu Tyr Leu Ser Val Asp Asp Tyr Tyr Asp Leu Lys Ser Leu Lys Ile  
 195 200 205  
 Ser Lys Ser Asn Asp Thr Ser Phe Ala Val Asn Val Asn Ala Lys Lys  
 210 215 220  
 Asn Asp Val Thr Lys Asn Phe Pro Phe Trp Lys Glu Arg Gln Thr Leu  
 225 230 235 240  
 Ile Phe Thr Thr Glu Asp Asp Asn Asn Trp Phe Leu Ser Ser Ile Asn  
 245 250 255

<210> 235  
 <211> 771  
 <212> DNA  
 <213> Homo sapiens

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 ggtcaaagat atataaacgt tggtaaaatt aaaaaaggaa agctttttca agcaaaagct 180  
 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 240  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 300  
 gagatacctg gaatagtgca cgaaaaaata gaaatcaatg attttacaaa tgctcctaaa 360  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 420  
 tttggaaagt ttgcaagagc tttaatttct aggaactttg atttgtttga ttcagttatt 480  
 gcgataaag ttaacgttat gggtaattt gaatcaaaaa atgattttat atcaacttta 540  
 tcaagtgcct catctaaggc cgatgctgat gagttagagt atttatcagt tgatgattat 600  
 tacgatttaa agtcttttaa aattttcaaaa tccaacgata cttcttttgc tggttaatgtt 660  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaaacttta 720  
 atttttacta cagaggatga taataattgg tttttgtcct ccataaattg a 771

<210> 236  
 <211> 711  
 <212> DNA  
 <213> Homo sapiens

<400> 236  
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 ttaaagattt atccagattt gaaaaagggg tttgatatca agcttgcagt taaagagctt 180  
 gatgctagga ttaaagatga caatcccaag gttgttatgc ttgaggatat taagcttgag 240  
 gagatacctg gaatagtgca cgaaaaaata gaaatcaatg attttacaaa tgctcctaaa 300  
 atagaatata ttgctcaaag agagagaagc aaaaatcaag ataaaattat taagtttcaa 360

tttggaaaagt ttgcaagagc ttttaatttct aggaactttg atttgtttga ttcagttatt 420  
 gcgataaaag ttaacgttat gggtaattt gaatacaaaa atgattttat atcaacttta 480  
 tcaagtgtt catctaaggc cgatgctgat gagtttagagt atttatcagt tgatgattat 540  
 tacgatttaa agtcttttaaa aatttcaaaa tccaacgata cttcttttgc tgtaaatgtt 600  
 aatgccaaaa aaaatgatgt tactaaaaat tttccatttt ggaaagaacg tcaaacttta 660  
 atttttacta cagaggatga taataattgg tttttgtctt ccataaattg a 711

<210> 237

<211> 668

<212> PRT

<213> Homo sapiens

<400> 237

Met Leu Ile Phe Gly Phe Ile Gly Leu Phe Phe Leu Asn Ile Phe Ser  
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Leu His Ala Gln Gly Ile Val Thr Asn Lys Asp Ala Gln Glu Glu Phe  
 20 25 30

Lys Trp Ala Leu Asn Ser Tyr Asn Asn Gly Ile Tyr Asp Asp Ala Leu  
 35 40 45

Leu Ser Phe Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr  
 50 55 60

His Phe Trp Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu  
 65 70 75 80

Ala Leu Met Glu Trp Arg Asn Leu Lys Asp Gln Gly Tyr Lys Val Pro  
 85 90 95

Tyr Leu Arg His Leu Ile Ser Thr Ile Glu Gln Arg Arg Gly Ile Phe  
 100 105 110

Ser Asn Tyr Glu Leu Asn Phe Lys Lys Leu Val Lys Val Ala Ser Leu  
 115 120 125

Asp Asn Ser Ile Tyr Lys Arg Pro His Gly Tyr Gln Ile Thr Ser Leu  
 130 135 140

Arg Ala Asp Lys Tyr Gly Gly Tyr Tyr Ala Ala Asn Phe Val Gly Asn  
 145 150 155 160

Glu Ile Leu Tyr Phe Asp Val Asn Asn Asn Val Asn Ala Leu Val Lys  
 165 170 175

Asp Gly Phe Ser Tyr Leu Lys Ser Pro Tyr Asp Val Ile Glu Ala Asn  
 180 185 190

Asn Leu Leu Tyr Val Thr Leu Tyr Ser Ser Asp Glu Ile Gly Val Tyr  
 195 200 205

Asp Lys Val Leu Gly Val Lys Arg Lys Ser Ile Gly Asn Lys Gly Thr  
 210 215 220

Lys Asp Gly Glu Leu Leu Ala Pro Gln Tyr Met Ala Ile Asp Lys Arg  
 225 230 235 240

Asn Tyr Ile Tyr Val Ser Glu Trp Gly Asn Lys Arg Val Ser Lys Phe  
 245 250 255



Gly Leu Glu Gly Asp Phe Ile Leu His Phe Gly Ser Arg Thr Ser Gly  
 260 265 270  
 Tyr Lys Gly Leu Leu Gly Pro Thr Gly Val Thr Tyr Leu Asn Glu Asn  
 275 280 285  
 Ile Tyr Val Ala Asp Ser Leu Arg Asn Thr Ile Glu Val Phe Asp Thr  
 290 295 300  
 Ser Gly Asn His Leu Tyr Ser Val Phe Thr Ser Ile Glu Gly Ile Glu  
 305 310 315 320  
 Gly Leu Ser Ser Asp Phe Val Gly Asn Asn Val Ile Val Ser Ser Lys  
 325 330 335  
 Asp Gly Val Tyr Lys Tyr Ser Ile Ala Lys Lys Thr Ile Thr Lys Ile  
 340 345 350  
 Leu Lys Ala Asp Lys Met Asn Ser Lys Ile Ser Ser Ser Ile Leu Asp  
 355 360 365  
 Ala Asn Asn Gln Met Ile Val Ser Asp Phe Asn Asn Ala Lys Val Ser  
 370 375 380  
 Val Tyr Lys Ser Asp Ala Ser Leu Tyr Asp Ser Leu Asn Val Asp Val  
 385 390 395 400  
 Arg Arg Ile Ile Arg Leu Gly Gly Pro Lys Ile Tyr Val Glu Leu Asn  
 405 410 415  
 Val Ser Ser Lys Ser Gly Leu Pro Val Val Gly Leu Lys Ser Glu Asn  
 420 425 430  
 Phe Ser Ile Ser Asn Glu Asn Tyr Tyr Ile Val Asn Pro Lys Val Ala  
 435 440 445  
 Tyr Asn Val Asn Ala Ser Lys Asp Ile Asn Ile Ala Val Val Phe Asp  
 450 455 460  
 Lys Ser Ser Tyr Met Lys Lys Tyr Asp Thr Asp Gln Ile Val Gly Leu  
 465 470 475 480  
 Asn Ala Leu Met Glu Leu Ser Lys Asn Lys Asn Phe Ser Phe Ile Asn  
 485 490 495  
 Ala Thr Ser Val Pro Ile Ile Asp Asn Ile Glu Ser Leu Thr Asn Ser  
 500 505 510  
 Ile Arg Asn Thr Ser Ser Leu Gly Pro Tyr Ser Thr Asp Ala Val Lys  
 515 520 525  
 Thr Asp Val Ser Leu Lys Leu Ala Gly Ser Gly Leu Met Ser Lys Ser  
 530 535 540  
 Ser Arg Arg Ala Val Val Tyr Phe Ser Gly Gly Ile Leu Asn Arg Lys  
 545 550 555 560  
 Ala Phe Glu Lys Tyr Ser Leu Asp Thr Ile Val Ser Tyr Tyr Lys Asn  
 565 570 575

Asn Asp Ile Arg Phe Tyr Leu Ile Leu Phe Gly Asn Asp Pro Ile Asn  
580 585 590

Ser Lys Leu Gln Tyr Leu Val Asn Glu Thr Gly Gly Ala Val Ile Pro  
595 600 605

Phe Ser Ser Tyr Glu Gly Val Ser Lys Val Tyr Asp Leu Ile Leu Glu  
610 615 620

Gln Lys Thr Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln  
625 630 635 640

Glu Pro Asn Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln  
645 650 655

Gln Thr Gly Arg Gly Glu Phe Ala Tyr Phe Ile Asn  
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<210> 238

<211> 649

<212> PRT

<213> Homo sapiens

<400> 238

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20 25 30

Lys Lys Ile Leu Ser Phe Asp Pro Asn Asn Leu Asp Tyr His Phe Trp  
35 40 45

Thr Gly Asn Val Tyr Tyr Arg Leu Gly Tyr Val Glu Glu Ala Leu Met  
50 55 60

Glu Trp Arg Asn Leu Lys Asp Gln Gly Tyr Lys Val Pro Tyr Leu Arg  
65 70 75 80

His Leu Ile Ser Thr Ile Glu Gln Arg Arg Gly Ile Phe Ser Asn Tyr  
85 90 95

Glu Leu Asn Phe Lys Lys Leu Val Lys Val Ala Ser Leu Asp Asn Ser  
100 105 110

Ile Tyr Lys Arg Pro His Gly Tyr Gln Ile Thr Ser Leu Arg Ala Asp  
115 120 125

Lys Tyr Gly Gly Tyr Tyr Ala Ala Asn Phe Val Gly Asn Glu Ile Leu  
130 135 140

Tyr Phe Asp Val Asn Asn Asn Val Asn Ala Leu Val Lys Asp Gly Phe  
145 150 155 160

Ser Tyr Leu Lys Ser Pro Tyr Asp Val Ile Glu Ala Asn Asn Leu Leu  
165 170 175

Tyr Val Thr Leu Tyr Ser Ser Asp Glu Ile Gly Val Tyr Asp Lys Val  
180 185 190

Leu Gly Val Lys Arg Lys Ser Ile Gly Asn Lys Gly Thr Lys Asp Gly  
 195 200 205  
 Glu Leu Leu Ala Pro Gln Tyr Met Ala Ile Asp Lys Arg Asn Tyr Ile  
 210 215 220  
 Tyr Val Ser Glu Trp Gly Asn Lys Arg Val Ser Lys Phe Gly Leu Glu  
 225 230 235 240  
 Gly Asp Phe Ile Leu His Phe Gly Ser Arg Thr Ser Gly Tyr Lys Gly  
 245 250 255  
 Leu Leu Gly Pro Thr Gly Val Thr Tyr Leu Asn Glu Asn Ile Tyr Val  
 260 265 270  
 Ala Asp Ser Leu Arg Asn Thr Ile Glu Val Phe Asp Thr Ser Gly Asn  
 275 280 285  
 His Leu Tyr Ser Val Phe Thr Ser Ile Glu Gly Ile Glu Gly Leu Ser  
 290 295 300  
 Ser Asp Phe Val Gly Asn Asn Val Ile Val Ser Ser Lys Asp Gly Val  
 305 310 315 320  
 Tyr Lys Tyr Ser Ile Ala Lys Lys Thr Ile Thr Lys Ile Leu Lys Ala  
 325 330 335  
 Asp Lys Met Asn Ser Lys Ile Ser Ser Ser Ile Leu Asp Ala Asn Asn  
 340 345 350  
 Gln Met Ile Val Ser Asp Phe Asn Asn Ala Lys Val Ser Val Tyr Lys  
 355 360 365  
 Ser Asp Ala Ser Leu Tyr Asp Ser Leu Asn Val Asp Val Arg Arg Ile  
 370 375 380  
 Ile Arg Leu Gly Gly Pro Lys Ile Tyr Val Glu Leu Asn Val Ser Ser  
 385 390 395 400  
 Lys Ser Gly Leu Pro Val Val Gly Leu Lys Ser Glu Asn Phe Ser Ile  
 405 410 415  
 Ser Asn Glu Asn Tyr Tyr Ile Val Asn Pro Lys Val Ala Tyr Asn Val  
 420 425 430  
 Asn Ala Ser Lys Asp Ile Asn Ile Ala Val Val Phe Asp Lys Ser Ser  
 435 440 445  
 Tyr Met Lys Lys Tyr Asp Thr Asp Gln Ile Val Gly Leu Asn Ala Leu  
 450 455 460  
 Met Glu Leu Ser Lys Asn Lys Asn Phe Ser Phe Ile Asn Ala Thr Ser  
 465 470 475 480  
 Val Pro Ile Ile Asp Asn Ile Glu Ser Leu Thr Asn Ser Ile Arg Asn  
 485 490 495  
 Thr Ser Ser Leu Gly Pro Tyr Ser Thr Asp Ala Val Lys Thr Asp Val  
 500 505 510

Ser Leu Lys Leu Ala Gly Ser Gly Leu Met Ser Lys Ser Ser Arg Arg  
515 520 525

Ala Val Val Tyr Phe Ser Gly Gly Ile Leu Asn Arg Lys Ala Phe Glu  
530 535 540

Lys Tyr Ser Leu Asp Thr Ile Val Ser Tyr Tyr Lys Asn Asn Asp Ile  
545 550 555 560

Arg Phe Tyr Leu Ile Leu Phe Gly Asn Asp Pro Ile Asn Ser Lys Leu  
565 570 575

Gln Tyr Leu Val Asn Glu Thr Gly Gly Ala Val Ile Pro Phe Ser Ser  
580 585 590

Tyr Glu Gly Val Ser Lys Val Tyr Asp Leu Ile Leu Glu Gln Lys Thr  
595 600 605

Gly Thr Tyr Leu Leu Glu Tyr Tyr Tyr Pro Gly Pro Gln Glu Pro Asn  
610 615 620

Lys Tyr Phe Asn Leu Ser Val Glu Ala Asn Ile Asn Gln Gln Thr Gly  
625 630 635 640

Arg Gly Glu Phe Ala Tyr Phe Ile Asn  
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<210> 239

<211> 2007

<212> DNA

<213> Homo sapiens

<400> 239

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aatcttgatt atcatttttg gactggcaat gtttattata gactgggtta tgttgaagaa 240
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<211> 1950

<212> DNA

<213> Homo sapiens

<400> 240

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<211> 273

<212> PRT

<213> Homo sapiens

<400> 241

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           65                                  70                                  75                                  80  
 Thr Trp Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile  
                                   85                                  90                                  95  
 Tyr Ile Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile  
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 Ala Val Thr Leu His Asn Phe Pro Glu Gly Leu Ala Val Gly Val Ala  
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 Phe Gly Ala Leu Ala Ser Asn Pro Asp Ile Gln Thr Leu Val Gly Ala  
           145                                  150                                  155                                  160  
 Met Leu Leu Thr Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly Ala  
                                   165                                  170                                  175  
 Ala Ile Ser Leu Pro Leu Arg Arg Gly Asn Val Ala Leu Ala Lys Cys  
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 Phe Asn Tyr Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu  
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 Leu Ala Phe Ser Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu  
           225                                  230                                  235                                  240  
 Ile Pro Glu Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile  
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 <211> 239  
 <212> PRT  
 <213> Homo sapiens

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Ile Gln Pro Ala Ile Glu Arg Ala Glu Glu Leu Gly Tyr Ile Thr Trp  
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Val Pro Ala Val Phe Gly Phe Leu Val Gly Ala Phe Phe Ile Tyr Ile  
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Val Asp Val Phe Val Pro Asp Leu Asp Lys Leu Thr Phe Ile Asp Glu  
 65 70 75 80

Asp Leu Thr Lys His Gly Lys Lys Asp Phe Leu Leu Phe Thr Ala Val  
 85 90 95

Thr Leu His Asn Phe Pro Glu Gly Leu Ala Val Gly Val Ala Phe Gly  
 100 105 110

Ala Leu Ala Ser Asn Pro Asp Ile Gln Thr Leu Val Gly Ala Met Leu  
 115 120 125

Leu Thr Leu Gly Ile Gly Ile Gln Asn Ile Pro Glu Gly Ala Ala Ile  
 130 135 140

Ser Leu Pro Leu Arg Arg Gly Asn Val Ala Leu Ala Lys Cys Phe Asn  
 145 150 155 160

Tyr Gly Gln Met Ser Gly Leu Val Glu Ile Val Gly Gly Leu Met Gly  
 165 170 175

Ala Tyr Ala Val Tyr Ser Phe Thr Arg Ile Leu Pro Phe Ala Leu Ala  
 180 185 190

Phe Ser Ala Gly Ala Met Ile Tyr Val Ser Ile Glu Gln Leu Ile Pro  
 195 200 205

Glu Ala Lys Arg Lys Asp Ile Asp Asn Lys Val Pro Ser Ile Phe Gly  
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Val Ile Gly Phe Thr Leu Met Met Phe Leu Asp Val Ser Leu Gly  
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<211> 822

<212> DNA

<213> Homo sapiens

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 <211> 720  
 <212> DNA  
 <213> Homo sapiens

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 gaagagcttg gatacattac ttgggtgccg gctgtttttg gatttcttgt tggggcattt 180  
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 <211> 753  
 <212> PRT  
 <213> Homo sapiens

<400> 245  
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 Phe Ala Met Ser Glu Asn Arg Gly Lys Asp Phe Ser Glu Ser Glu Leu  
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 Ile Asp Leu Arg Lys Asn Pro Lys Phe Val Ile Asp Ser Val Lys Val  
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 Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn Leu Lys  
 115 120 125  
 Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu Gly Arg  
 130 135 140  
 Val Ile Val Ser Thr Arg His Glu Asn Asn Met Asp Phe Gly His Ser  
 145 150 155 160  
 Glu Ala Asn Thr Asn Tyr Phe Lys Lys Ala Val Glu Asp Tyr Arg Gln  
 165 170 175  
 Asn Gln Leu Lys Phe Ile Gly Trp Tyr Ser Asn Leu Ser Glu Gly Ile



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Ala Ile Ile Val Pro Val Tyr Ser Pro Glu Asp Lys Leu Val Cys Gly		
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Tyr Leu Ala Gly Tyr Leu Leu Asn Asp Ile Val Ala Asp Ser Phe Asp		
225	230	235
Arg Phe Arg Phe Gly Phe Tyr Lys Arg Gly Asn Phe Ile Tyr Val Asp		
245	250	255
Pro Asn Asn Ile Ala Val Asn Pro Phe Glu Glu Tyr Asn Glu Thr Ser		
260	265	270
Arg Val Ser Ser Lys Phe Leu Asn Val Leu Lys Asp Val Phe Ser Lys		
275	280	285
Pro Pro Phe Pro Ser Asn Ile Ala Ser Glu Val Ser Val Tyr Thr Ile		
290	295	300
Asp Arg Ile Leu Leu Ser Glu Met Gly Glu Asp Cys Tyr Tyr Ala Met		
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Leu Pro Ile Ser Ser Lys Leu Gly Glu Lys Ser Gly Val Leu Ile Ala		
325	330	335
Arg Leu Pro Tyr Lys Asp Ile Tyr Gly Val Ile Ser Ser Leu Arg Phe		
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Gln Tyr Ile Leu Tyr Ser Val Leu Gly Ile Ile Ala Leu Ser Ile Val		
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Leu Ser Ile Arg Ile Asp Arg Ile Ile Ser Phe Arg Leu Asn Ala Ile		
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420	425	430
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435	440	445
Ser Ser Ser Gln Asn Leu Ser Ser Ser Ala Leu Gln Gln Ala Ser Ala		
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Leu Glu Glu Met Ser Ala Asn Val Glu Gln Ile Ala Ser Gly Val Asn		
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Met Ser Ala Asn Asn Ser Tyr Glu Thr Glu Gln Ile Ala Leu Lys Thr		
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Lys Val Ser Lys Lys Tyr Arg Gln Tyr Leu Tyr Asn Phe Met Ala Asn 85 90 95		
Leu Lys Asn Asp Thr Leu Phe Glu Glu Phe Ala Phe Phe Asp Phe Glu 100 105 110		
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Lys Thr Asn Glu Asn Ser Gln Ile Gly Gly Arg Ala Val Glu Glu Ser 465 470 475 480			
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Phe Lys Glu Met Leu Pro Glu Ile Glu Glu Thr Ala Asn Leu Val Lys 565 570 575			
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Lys Glu Leu Arg Lys Ser Val Leu Phe Phe Lys Ile Lys Asp Ser Lys 625 630 635 640			
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660

665

670

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<211> 2262

<212> DNA

<213> Homo sapiens

<400> 247

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 ttctctgagt cggaattgat agatttaaga aaaaatccaa aatttgttat tgactctgta 240  
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 accctttttg aagaattcgc ttttttgat tttgaaggga gagtaattgt tagcacaaga 360  
 catgagaata atatggattt tggtcattct gaggctaata ccaattattt taaaaaagct 420  
 gttgaggatt ataggcaaaa ccaattaaaa tttatagggt ggtattcaaa tctttctgaa 480  
 ggaatatccg cagaagttgc tattaggtct aaacaaagcg aaaaaaggc ttttgcaata 540  
 attgtacctg tatattcccc agaagataaa cttgtttgtg ggtatttggc cggatatttg 600  
 cttaatgata ttgtggcaga tagttttgat agatttagat tcgggtttta taaaagaggc 660  
 aattttattt atgtggatcc caacaatata gcagttaatc gttcttaaag atgttttctc taagccccct 780  
 accagcaggg ttagttctaa atttttgaat gttcttaaag atgttttctc taagccccct 840  
 tttccatcaa acattgccag tgaagtgtcg gtttacata ttgatagaat acttttgtcc 840  
 gaaatgggag aagattgtta ttatgcaatg ttgccataa gtagtaaatt gggagaaaag 900  
 agtggagtag ttattgctag gcttccttat aaggatattt acggagtaat atctagtcta 960  
 agatttcagt atattttata ttcagtcctta ggcattatag cattaagtat tgttctttca 1020  
 attagaatag acaggattat tagttttcgt ttaaaccgaa ttagagttct agttcaagat 1080  
 atggttaagg gcaattttaga taaagattat gctcttgatg atgatgaaaa tactcttgat 1140  
 gaacttggca tgttaagtct tcagggtgtt aaaatgaaaa aagctatttc tgtagcaatt 1200  
 tctagtgttt tgagaaatat tagctatgta aataaggcaa gtttagaagt tgccagttca 1260  
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 ttagaaaagt ctaaggaact tagaaaatct gtattatttt tcaaaattaa agattctaaa 1920  
 attgaaaatc cagaaaatga tgattatgat ttcagggttaa tagattgtcc tgaaaattct 1980  
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<210> 249  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 249  
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 20 25 30  
 Ile Val Gly Leu Val Val Met Gly Leu Gly His Ser Pro Phe Arg Met  
 35 40 45  
 Tyr Phe Ile Ile Leu Glu Ile Ile Phe Ser Ser Pro Lys His Leu Gly  
 50 55 60

Tyr Val Leu Ser Tyr Ser Ala Pro Leu Ile Phe Thr Gly Leu Ser Ile  
 65 70 75 80  
 Gly Ile Ser Leu Lys Ala Gly Leu Phe Asn Ile Gly Val Glu Gly Gln  
 85 90 95  
 Phe Ile Leu Gly Ser Ile Val Ala Leu Ile Ala Ser Val Leu Leu Asp  
 100 105 110  
 Leu Pro Pro Ile Leu His Val Ile Thr Ile Phe Ile Ile Thr Phe Leu  
 115 120 125  
 Ala Ser Gly Ser Leu Gly Ile Leu Ile Gly Tyr Leu Lys Ala Lys Phe  
 130 135 140  
 Asn Ile Ser Glu Val Ile Ser Gly Ile Met Phe Asn Trp Ile Leu Phe  
 145 150 155 160  
 His Leu Asn Asn Ile Ile Leu Asp Phe Ser Phe Ile Lys Arg Asp Asn  
 165 170 175  
 Ser Asp Phe Ser Lys Pro Ile Lys Glu Ser Ala Tyr Ile Asp Phe Leu  
 180 185 190  
 Ala Ser Trp Lys Leu Ser Pro Glu Gly Leu Ala Tyr Arg Ser Ser His  
 195 200 205  
 Pro Phe Val Asn Glu Leu Leu Lys Ala Pro Leu His Phe Gly Ile Ile  
 210 215 220  
 Leu Gly Ile Ile Phe Ala Ile Leu Ile Trp Phe Leu Leu Asn Lys Thr  
 225 230 235 240  
 Ile Ile Gly Phe Lys Ile Asn Ala Thr Gly Ser Asn Ile Glu Ala Ser  
 245 250 255  
 Arg Cys Met Gly Ile Asn Val Lys Ala Val Leu Ile Phe Ser Met Phe  
 260 265 270  
 Leu Ser Ala Ala Val Ala Gly Leu Ala Gly Ala Ile Gln Leu Met Gly  
 275 280 285  
 Val Asn Lys Ala Ile Phe Lys Leu Ser Tyr Met Gln Gly Ile Gly Phe  
 290 295 300  
 Asn Gly Ile Ala Ala Ser Leu Met Gly Asn Asn Ser Pro Ile Gly Ile  
 305 310 315 320  
 Ile Phe Ser Ser Ile Leu Phe Ser Ile Leu Leu Tyr Gly Ser Ser Arg  
 325 330 335  
 Val Gln Ser Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met  
 340 345 350  
 Gly Ile Ile Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile  
 355 360 365  
 Val Leu Lys Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
 370 375 380

<210> 250  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 250  
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 Ile Leu Glu Ile Ile Phe Ser Ser Pro Lys His Leu Gly Tyr Val Leu  
                     20                    25                    30  
 Ser Tyr Ser Ala Pro Leu Ile Phe Thr Gly Leu Ser Ile Gly Ile Ser  
             35                    40                    45  
 Leu Lys Ala Gly Leu Phe Asn Ile Gly Val Glu Gly Gln Phe Ile Leu  
             50                    55                    60  
 Gly Ser Ile Val Ala Leu Ile Ala Ser Val Leu Leu Asp Leu Pro Pro  
             65                    70                    75                    80  
 Ile Leu His Val Ile Thr Ile Phe Ile Ile Thr Phe Leu Ala Ser Gly  
                     85                    90                    95  
 Ser Leu Gly Ile Leu Ile Gly Tyr Leu Lys Ala Lys Phe Asn Ile Ser  
                     100                    105                    110  
 Glu Val Ile Ser Gly Ile Met Phe Asn Trp Ile Leu Phe His Leu Asn  
             115                    120                    125  
 Asn Ile Ile Leu Asp Phe Ser Phe Ile Lys Arg Asp Asn Ser Asp Phe  
             130                    135                    140  
 Ser Lys Pro Ile Lys Glu Ser Ala Tyr Ile Asp Phe Leu Ala Ser Trp  
             145                    150                    155                    160  
 Lys Leu Ser Pro Glu Gly Leu Ala Tyr Arg Ser Ser His Pro Phe Val  
                     165                    170                    175  
 Asn Glu Leu Leu Lys Ala Pro Leu His Phe Gly Ile Ile Leu Gly Ile  
             180                    185                    190  
 Ile Phe Ala Ile Leu Ile Trp Phe Leu Leu Asn Lys Thr Ile Ile Gly  
             195                    200                    205  
 Phe Lys Ile Asn Ala Thr Gly Ser Asn Ile Glu Ala Ser Arg Cys Met  
             210                    215                    220  
 Gly Ile Asn Val Lys Ala Val Leu Ile Phe Ser Met Phe Leu Ser Ala  
             225                    230                    235                    240  
 Ala Val Ala Gly Leu Ala Gly Ala Ile Gln Leu Met Gly Val Asn Lys  
                     245                    250                    255  
 Ala Ile Phe Lys Leu Ser Tyr Met Gln Gly Ile Gly Phe Asn Gly Ile  
                     260                    265                    270  
 Ala Ala Ser Leu Met Gly Asn Asn Ser Pro Ile Gly Ile Ile Phe Ser  
             275                    280                    285



Ser Ile Leu Phe Ser Ile Leu Leu Tyr Gly Ser Ser Arg Val Gln Ser  
 290 300  
 Leu Met Gly Leu Pro Ser Ser Ile Val Ser Leu Met Met Gly Ile Ile  
 305 310 315 320  
 Val Leu Val Ile Ser Ala Ser Tyr Phe Leu Asn Lys Ile Val Leu Lys  
 325 330 335  
 Gly Val Lys Arg Val Lys Tyr Asn Asn Ile Leu Asp  
 340 345

<210> 251  
 <211> 1152  
 <212> DNA  
 <213> Homo sapiens

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 cttggtcatt ctctttttag aatgtatttt ataattattg aaattatttt ttcttctccc 180  
 aaacatttag gttatgtttt aagttattca gctcctttga tttttacagg tctttctatt 240  
 ggtattttctt taaaagcggg tctttttaat attgggggtg aaggccagtt tatactagga 300  
 tctattgttg ctttaataagc atcagtttta cttgatttgc ctccaatttt acatgtaatt 360  
 actattttta ttattacttt tttagcttca ggcagtttag gaattttaat cggatattta 420  
 aaagccaaat tcaatattag cgaagtgatt tcaggaataa tgtttaattg gatattattt 480  
 catttaaata atataatttt agatttttagt tttattaaaa gagataatag tgatttttca 540  
 aaaccattta aagaaagcgc atataattgat ttttttagctt cttggaagct ctccaccagaa 600  
 ggtcttgctt atagatcttc tcatcctttt gttaattgagc ttttaaaagc acctcttcat 660  
 tttggaataa ttttaggtat aatttttgct attttaatat ggtttttact taataaaact 720  
 attattggat ttaaaataaa tgccacagga agtaatttg aagcttcaag atgtatgggt 780  
 attaatgtaa aagctgtgct aattttttca atgtttctct cagcagctgt tgcaggtctt 840  
 gctggtgcta ttcaacttat ggggtgtaaa aaagctatat ttaagctttc ttatatgcaa 900  
 ggaattgggt ttaattgggt agctgcttct cttatgggaa acaattcgcc aattggcata 960  
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 atgggccttc catcttcaat tgtatctttg atgatgggaa taattgttct tgtaatttct 1080  
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 attcttgatt ag 1152

<210> 252  
 <211> 1050  
 <212> DNA  
 <213> Homo sapiens

<400> 252  
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 tttacaggtc tttctatttg tatttcttta aaagcgggtc tttttaatat tgggggtgaa 180  
 ggccagttta tactaggatc tattgttgct ttaatagcat cagttttact tgatttgcct 240  
 ccaattttac atgtaattac tatttttatt attacttttt tagcttcagg cagtttagga 300  
 attttaatcg gatattttaa agccaaattc aatattagcg aagtgatttc aggaataatg 360  
 ttttaattgga tattatttca ttttaataat ataatttttag atttttagttt tattaaaaga 420  
 gataatagtg atttttcaaa acccattaaa gaaagcgcac atattgattt tttagcttct 480  
 tggaagctct caccagaagg tcttgcttat agatcttctc atccttttgt taatgagctt 540  
 ttaaaagcac ctcttcattt tgggaataat ttaggtataa tttttgctat tttaatatgg 600  
 tttttactta ataaaactat tattggattt aaaaataatg ccacaggaag taatattgaa 660  
 gcttcaagat gtatgggtat taatgtaaaa gctgtgctaa ttttttcaat gtttctctca 720  
 gcagctgttg caggtcttgc tgggtgctatt caacttatgg gtgttaataa agctatatatt 780  
 aagctttctt atatgcaagg aattggtttt aatgggatag ctgcttctct tatgggaaac 840

aattcgccaa ttggcataat attttctagc attctttttt ctatattgct ttatggaagc 900  
 agtagagttc aaagtttaaat gggccttcca tcttcaattg tatctttgat gatgggaata 960  
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 cgtgtcaaat ataataatat tcttgattag 1050

<210> 253  
 <211> 348  
 <212> PRT  
 <213> Homo sapiens

<400> 253  
 Met Val Lys Lys Phe Ser Ile Phe Leu Lys Ala Ile Ile Ile Phe Ser  
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 Ile Phe Glu Leu Leu Ile Glu Glu Leu Ser Ile Ile Leu Phe Leu Pro  
                   20                  25                  30  
 Tyr Lys Ile Arg Phe Ala Leu Ile Phe Leu Gly Phe Leu Phe Asp Thr  
           35                  40                  45  
 Ile Phe Ile Phe Ile Phe Leu Tyr Lys Ile Thr Lys Ala Tyr Leu Ser  
           50                  55                  60  
 Gln Arg Leu Glu Ile Tyr Val Arg Asn Asn Leu Phe Phe Asp Ile Ile  
           65                  70                  75                  80  
 His Cys Leu Ile Pro Leu Ala Phe Tyr Ser Ser Tyr Gln Leu Lys Asn  
                   85                  90                  95  
 Ile Ile Val Ala His Glu Thr Ile Leu Asn Pro Ile Met Leu Ser Leu  
                   100                  105                  110  
 Phe Lys Leu Arg Phe Leu Arg Leu Leu Arg Phe Asn Asp Leu Ile Ile  
           115                  120                  125  
 Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu Ile Leu Ile Ala Phe  
           130                  135                  140  
 Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro Phe Thr Phe Phe Ile  
           145                  150                  155                  160  
 Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile Pro Glu Lys Gln Glu  
                   165                  170                  175  
 Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn Glu Lys Ala Tyr Ile  
                   180                  185                  190  
 Lys Glu Lys Tyr Pro Phe Ile Leu Ile Ile Lys Glu Lys Asp Asp Ile  
           195                  200                  205  
 Ile Tyr Ser Lys Ser Asp Glu Ile Phe Val Tyr Tyr Ser Pro Ser Glu  
           210                  215                  220  
 Tyr Arg Val Ile Glu Met Glu Lys Thr Lys Phe Tyr Ile Asp Lys Tyr  
           225                  230                  235                  240  
 Leu Gln Arg Lys Ser Asp Ser Ile Leu Gly Ile Phe Leu Phe Thr Leu  
                   245                  250                  255  
 Phe Ala Ser Phe Thr Ile Phe Leu Met Asn Phe Tyr Lys Phe Phe Lys

260 265 270

Ala Ser Phe Leu Asn Pro Ile Ile Leu Met Thr Lys Ile Leu Gln Asp  
275 280 285

Pro Leu Glu Tyr Arg Lys Ile Gln Ile Pro Phe Thr Leu Ser Glu Glu  
290 295 300

Lys Val Tyr Glu Leu Ala Lys Ser Phe Asn Asn Leu Leu Leu Lys Glu  
305 310 315 320

Lys Leu Asn Ser Lys Arg Lys Ser Lys Ile Pro Leu Glu Ile Glu Lys  
325 330 335

Val Lys Lys Ile Ile Asn Lys Asn Gln Glu Ile Lys  
340 345

<210> 254  
<211> 337  
<212> PRT  
<213> Homo sapiens

<400> 254

Ile Ile Ile Phe Ser Ile Phe Glu Leu Leu Ile Glu Glu Leu Ser Ile  
1 5 10 15

Ile Leu Phe Leu Pro Tyr Lys Ile Arg Phe Ala Leu Ile Phe Leu Gly  
20 25 30

Phe Leu Phe Asp Thr Ile Phe Ile Phe Ile Phe Leu Tyr Lys Ile Thr  
35 40 45

Lys Ala Tyr Leu Ser Gln Arg Leu Glu Ile Tyr Val Arg Asn Asn Leu  
50 55 60

Phe Phe Asp Ile Ile His Cys Leu Ile Pro Leu Ala Phe Tyr Ser Ser  
65 70 75 80

Tyr Gln Leu Lys Asn Ile Ile Val Ala His Glu Thr Ile Leu Asn Pro  
85 90 95

Ile Met Leu Ser Leu Phe Lys Leu Arg Phe Leu Arg Leu Leu Arg Phe  
100 105 110

Asn Asp Leu Ile Ile Glu Ile Tyr Tyr Asn Ser Lys Glu Lys Asn Leu  
115 120 125

Ile Leu Ile Ala Phe Ala Arg Thr Phe Ser Met Ser Leu Leu Ile Pro  
130 135 140

Phe Thr Phe Phe Ile Ile Ile Ser Ser Ser Lys Ile Val Asn Ser Ile  
145 150 155 160

Pro Glu Lys Gln Glu Phe Asn Ile Ile Lys Asn Ile Ser Ile Ile Asn  
165 170 175

Glu Lys Ala Tyr Ile Lys Glu Lys Tyr Pro Phe Ile Leu Ile Ile Lys  
180 185 190

Glu Lys Asp Asp Ile Ile Tyr Ser Lys Ser Asp Glu Ile Phe Val Tyr

195 200 205

Tyr Ser Pro Ser Glu Tyr Arg Val Ile Glu Met Glu Lys Thr Lys Phe  
210 215 220

Tyr Ile Asp Lys Tyr Leu Gln Arg Lys Ser Asp Ser Ile Leu Gly Ile  
225 230 235 240

Phe Leu Phe Thr Leu Phe Ala Ser Phe Thr Ile Phe Leu Met Asn Phe  
245 250 255

Tyr Lys Phe Phe Lys Ala Ser Phe Leu Asn Pro Ile Ile Leu Met Thr  
260 265 270

Lys Ile Leu Gln Asp Pro Leu Glu Tyr Arg Lys Ile Gln Ile Pro Phe  
275 280 285

Thr Leu Ser Glu Glu Lys Val Tyr Glu Leu Ala Lys Ser Phe Asn Asn  
290 295 300

Leu Leu Leu Lys Glu Lys Leu Asn Ser Lys Arg Lys Ser Lys Ile Pro  
305 310 315 320

Leu Glu Ile Glu Lys Val Lys Lys Ile Ile Asn Lys Asn Gln Glu Ile  
325 330 335

Lys

<210> 255  
<211> 1047  
<212> DNA  
<213> Homo sapiens

<400> 255

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tttcttgggt	ttctatttga	cacaattttt	attttcattt	ttttatacaa	aataaccaag	180
gcctaccttt	cccaaagatt	agaaatctac	gtcagaaaca	atctattctt	cgatataatc	240
cactgcctta	ttccttttagc	gttttatagc	tcatatcagc	ttaaaaacat	aattgtcgcc	300
catgaaacaa	tattaaatcc	aataatgcta	tcacttttca	agttaagatt	tttaagactt	360
cttaggttta	atgacctaata	aatagaaata	tattacaatt	caaaagaaaa	gaacctata	420
ctaatagcac	ttgctaggac	attttcaatg	agcttattaa	taccatttac	attttttata	480
ataatatcaa	gctcaaaaat	tgtaaattca	ataccagaaa	aacaagaatt	taatatcatt	540
aaaaatatat	caataataaa	tgaaaaagct	tacattaaag	aaaaatatcc	cttcatctta	600
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ttgcaaagaa	aaagcgattc	tattctttgga	atttttctat	ttacattggt	tgcatcattt	780
actatttttt	taatgaattt	ttataaattt	tttaaagcaa	gcttttttaa	tcctattatt	840
ttaatgacaa	aaatttttaca	agacccatta	gaatatcgaa	aaattcaaat	tccttttact	900
ttaagcgaag	aaaaagtata	tgaacttgca	aaatcattta	acaatctctt	gctaaaagaa	960
aaactaaact	caaagcgaaa	aagcaaaaata	ccttttagaaa	ttgaaaaagt	aaaaaaaaata	1020
attaataaaa	accaggaaat	aaaatga				1047

<210> 256  
<211> 1014  
<212> DNA  
<213> Homo sapiens

<400> 256

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 ttcatttttt tatacaaaaat aaccaaggcc tacctttccc aaagattaga aatctacgtc 180  
 agaaacaatc tattcttcga tataatccac tgccttattc ctttagcggt ttatagctca 240  
 tatcagctta aaaacataat tgtcgcccat gaaacaatat taaatccaat aatgctatca 300  
 cttttcaagt taagattttt aagacttctt aggttttaatg acctaataat agaaatatat 360  
 tacaattcaa aagaaaagaa cctaatacta atagcatttg ctaggacatt ttcaatgagc 420  
 ttattaatac catttacatt ttttataata atatcaagct caaaaattgt aaattcaata 480  
 ccagaaaaac aagaatttaa tatcattaaa aatatatcaa taataaatga aaaagcttac 540  
 attaaagaaa aatatccctt catcttaata atcaaggaaa aagatgacat aatatactca 600  
 aaatcagacg aaatatttgt ttactacagt cccagtgaat atagagtaat agaaatggag 660  
 aaaacaaaaa tttatataga taaatatttg caaagaaaaa gcgattctat tcttggaatt 720  
 tttctattta cattgtttgc atcattttact atttttttta tgaattttta taaatttttt 780  
 aaagcaagct ttttaaattc tattattttta atgacaaaaa ttttacaaga cccattagaa 840  
 tatcgaaaaa ttcaaattcc ttttacttta agcgaaagaa aagtatatga acttgcaaaa 900  
 tcattttaaca atctcttgct aaaagaaaaa ctaaactcaa agcgaaaaag caaataacct 960  
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<210> 257

<211> 322

<212> PRT

<213> Homo sapiens

<400> 257

Met Lys Ile Gln Ile Ile Ile Met Leu Leu Ala Leu Leu Asp Phe Pro  
 1 5 10 15

Leu Asn Ala Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu  
 20 25 30

Glu Ile Lys Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr  
 35 40 45

Tyr Thr Asn Phe Pro Thr Ser Glu Ile Glu Lys Asn Ile Tyr Lys Leu  
 50 55 60

Thr Glu His Phe Val Lys Ser Ile Met Leu Asn Lys Thr Asn Tyr Ser  
 65 70 75 80

Leu Leu Asn Ser Asn Tyr Lys Glu Ala Asn Lys Tyr Leu Ile Gln Ser  
 85 90 95

Glu Leu Ile Asp Lys Lys Phe Leu Lys Tyr Lys Ile Phe Lys Ile Lys  
 100 105 110

Asn Ile Asn Gly Ile Phe Lys Ser His Ser Leu Ile Tyr Thr Lys Lys  
 115 120 125

Gly Phe Tyr Lys Leu Glu Leu Tyr Ile Glu Asn Asn Ala Glu Pro Leu  
 130 135 140

Lys Ile Phe Asn Leu Asn Ile Thr Tyr Phe Leu Lys Asn Leu Asp Lys  
 145 150 155 160

Ile Ser Asn Glu Met Ile Phe Phe Pro Arg Glu Lys Arg Glu Val Asn  
 165 170 175

Met Ile Gln Lys Thr Thr Ile Ala Ala Asp Ser Ser Ser Lys Pro Arg  
 180 185 190

Gly Ile Asn Tyr Asp Thr Gly Ile Pro Phe Asn Val Leu Ile Val Asp  
 195 200 205  
 Asp Ser Val Phe Thr Val Lys Gln Leu Thr Gln Ile Phe Thr Ser Glu  
 210 215 220  
 Gly Phe Asn Ile Ile Asp Thr Ala Ala Asp Gly Glu Glu Ala Val Ile  
 225 230 235 240  
 Lys Tyr Lys Asn His Tyr Pro Asn Ile Asp Ile Val Thr Leu Asp Ile  
 245 250 255  
 Thr Met Pro Lys Met Asp Gly Ile Thr Cys Leu Ser Asn Ile Met Glu  
 260 265 270  
 Phe Asp Lys Asn Ala Arg Val Ile Met Ile Ser Ala Leu Gly Lys Glu  
 275 280 285  
 Gln Leu Val Lys Asp Cys Leu Ile Lys Gly Ala Lys Thr Phe Ile Val  
 290 295 300  
 Lys Pro Leu Asp Arg Ala Lys Val Leu Gln Arg Val Met Ser Val Phe  
 305 310 315 320  
 Val Lys

<210> 258  
 <211> 303  
 <212> PRT  
 <213> Homo sapiens

<400> 258  
 Arg Leu Leu Asp Ile Ser Ile Glu Lys Arg Ala Asp Glu Glu Ile Lys  
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 Lys Tyr Ser Ser Tyr Asn Leu Ile Leu Glu Lys Glu Tyr Tyr Thr Asn  
 20 25 30  
 Phe Pro Thr Ser Glu Ile Glu Lys Asn Ile Tyr Lys Leu Thr Glu His  
 35 40 45  
 Phe Val Lys Ser Ile Met Leu Asn Lys Thr Asn Tyr Ser Leu Leu Asn  
 50 55 60  
 Ser Asn Tyr Lys Glu Ala Asn Lys Tyr Leu Ile Gln Ser Glu Leu Ile  
 65 70 75 80  
 Asp Lys Lys Phe Leu Lys Tyr Lys Ile Phe Lys Ile Lys Asn Ile Asn  
 85 90 95  
 Gly Ile Phe Lys Ser His Ser Leu Ile Tyr Thr Lys Lys Gly Phe Tyr  
 100 105 110  
 Lys Leu Glu Leu Tyr Ile Glu Asn Asn Ala Glu Pro Leu Lys Ile Phe  
 115 120 125  
 Asn Leu Asn Ile Thr Tyr Phe Leu Lys Asn Leu Asp Lys Ile Ser Asn  
 130 135 140

Glu Met Ile Phe Phe Pro Arg Glu Lys Arg Glu Val Asn Met Ile Gln  
 145 150 155 160  
 Lys Thr Thr Ile Ala Ala Asp Ser Ser Ser Lys Pro Arg Gly Ile Asn  
 165 170 175  
 Tyr Asp Thr Gly Ile Pro Phe Asn Val Leu Ile Val Asp Asp Ser Val  
 180 185 190  
 Phe Thr Val Lys Gln Leu Thr Gln Ile Phe Thr Ser Glu Gly Phe Asn  
 195 200 205  
 Ile Ile Asp Thr Ala Ala Asp Gly Glu Glu Ala Val Ile Lys Tyr Lys  
 210 215 220  
 Asn His Tyr Pro Asn Ile Asp Ile Val Thr Leu Asp Ile Thr Met Pro  
 225 230 235 240  
 Lys Met Asp Gly Ile Thr Cys Leu Ser Asn Ile Met Glu Phe Asp Lys  
 245 250 255  
 Asn Ala Arg Val Ile Met Ile Ser Ala Leu Gly Lys Glu Gln Leu Val  
 260 265 270  
 Lys Asp Cys Leu Ile Lys Gly Ala Lys Thr Phe Ile Val Lys Pro Leu  
 275 280 285  
 Asp Arg Ala Lys Val Leu Gln Arg Val Met Ser Val Phe Val Lys  
 290 295 300

<210> 259  
 <211> 516  
 <212> DNA  
 <213> Homo sapiens

<400> 259  
 atgaaaattc aaataattat aatgctgctt gcattggttag attttccact taatgccaga 60  
 cttttggaca tttcaattga aaaaagagca gatgaagaaa taaaaaata ttcgtcttat 120  
 aattttaattt tagaaaaaga atactataacc aattttccaa caagcgaaat agaaaaaat 180  
 atttataaac taacagaaca ttttgtaaaa agcataatgc tcaataaaac taactacagc 240  
 ttattaaatt caaactacaa agaagcaaat aaatatctaa ttcaaagcga actcattgat 300  
 aaaaaatttt taaaatataa aatattttaa atcaaaaata taaatggaat ttttaaaagc 360  
 cattcactaa tatatacaaa aaaaggattt tacaaattag aactttacat agaaaataat 420  
 gcagaacctc taaaaatatt taaccttaac attacttatt ttttaaagaa tttagataaa 480  
 ataagtaatg aaatgatttt tttcccaagg gaatga 516

<210> 260  
 <211> 459  
 <212> DNA  
 <213> Homo sapiens

<400> 260  
 agacttttgg acattttcaat tgaaaaaaga gcagatgaag aaataaaaaa atattcgtct 60  
 tataatttaa ttttagaaaa agaatactat accaattttc caacaagcga aatagaaaaa 120  
 aatattttata aactaacaga acatttttga aaaagcataa tgctcaataa aactaactac 180  
 agcttatttaa attcaaacta caaagaagca aataaataatc taattcaaag cgaactcatt 240  
 gataaaaaat ttttaaaata taaaatattt aaaatcaaaa atataaatgg aattttttaa 300  
 agccattcac taatatatac aaaaaaaggga ttttacaat tagaacttta catagaaaat 360  
 aatgcagaac ctctaaaaat atttaacctt aacattactt atttttttaa gaatttagat 420  
 aaaataagta atgaaatgat ttttttccca agggaatga 459

<210> 261  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens

<400> 261  
 Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val  
     1                    5                    10                    15  
 Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr  
                     20                    25                    30  
 Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu  
             35                    40                    45  
 Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser  
             50                    55                    60  
 Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn  
             65                    70                    75                    80  
 Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe  
                     85                    90                    95  
 Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe  
                     100                    105                    110  
 Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro  
             115                    120                    125  
 Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala  
             130                    135                    140  
 Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys  
             145                    150                    155                    160  
 Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn  
                     165                    170                    175  
 Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu  
                     180                    185                    190  
 Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile  
             195                    200                    205  
 Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile  
             210                    215                    220  
 Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
             225                    230                    235                    240  
 Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
                     245                    250                    255  
 Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
                     260                    265                    270  
 Gln Thr



<210> 262  
 <211> 253  
 <212> PRT  
 <213> Homo sapiens

<400> 262  
 Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu Met Glu Leu Leu  
           1                  5                  10                  15  
 Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile Lys Asn Arg Ser  
                   20                  25                  30  
 Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val Leu Gly Leu Ile  
                   35                  40                  45  
 Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn Asp Phe Ala Leu  
                   50                  55                  60  
 Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp Gly Ile His Lys  
                   65                  70                  75                  80  
 Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr Asn Pro Lys Trp  
                   85                  90                  95  
 Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn Lys Ala Arg Thr  
                   100                  105                  110  
 Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys Asp Asn Asn Met  
                   115                  120                  125  
 Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn Glu Met Phe Phe  
                   130                  135                  140  
 Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln Ile Val Ser Ser  
                   145                  150                  155                  160  
 Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser Ile Asn Ser Leu  
                   165                  170                  175  
 Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys Thr Asn Asn Pro  
                   180                  185                  190  
 Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro Thr Val Leu Thr  
                   195                  200                  205  
 Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys Thr Thr Ile Lys  
                   210                  215                  220  
 Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln Lys Ser Ser Val  
                   225                  230                  235                  240  
 Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln Thr  
                   245                  250

<210> 263  
 <211> 825  
 <212> DNA  
 <213> Homo sapiens

<400> 263  
atgttaaaaa cattaacaaa aataattacc atttcatgcc tcatagtggg atgcgcaagc 60  
ctgccttaca ctccctccaaa acaaaatcta aattacttaa tggaaactttt acctggcgca 120  
aattttatagc cccatgtaaa tttaattaaa aacagggtcta ttataactc tttaagccct 180  
aaatataaat cagttcttgg gcttataagc aattttatact ttagctataa aaaagaaaat 240  
aacgattttg ctctactaat aatggggaat ttcccaaaaag atatttttctg gggaaattcat 300  
aaaaatagaa atacagaatc aataggcaat atattttacaa atccaaaatg gaaacttaaa 360  
aattcaaata tatacattat tccaaaacaaa gctagaacta gcattgcaat aacccaaaaa 420  
gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480  
aatgaaatgt ttttttggat tcaagatcca acattattgc tcccaaacca aatagtaagc 540  
agcaaaaatt taattccctt tagcagtgga actttgtcta taaacagctt aaatcaagaa 600  
gaatatattt ttaaatcctt aatcaaaaaca aataatccac caatactaaa aatattgtca 660  
aaaaagttaa ttccaaccgt cttgacaaac atgacaaacc tcacaatatc aagccacata 720  
aagaccacaa taaaagacca aaatacggtt gaaatagaat ttaattattca aaaatctagt 780  
gttgaaagcc ttatagaaaa actagcttca aatattcaaa cctaa 825

<210> 264  
<211> 762  
<212> DNA  
<213> Homo sapiens

<400> 264  
ccttacactc ctccaaaaca aaatctaaat tacttaatgg aactttttacc tggcgcaaat 60  
ttatacgccc atgtaaattt aattaaaaac aggtctattt ataactcttt aagccctaaa 120  
tataaatcag ttcttgggct tataagcaat ttatacttta gctataaaaa agaaaaatac 180  
gattttgctc tactaataat gggtaatttc ccaaaagata ttttctgggg aattcataaa 240  
aatagaaata cagaatcaat aggcaatata ttacaaaatc caaaatggaa acttaaaaaat 300  
tcaaatatat acattatttc aaacaaaagct agaactagca ttgcaataac ccaaaaagat 360  
ataaccgcaa aagacaataa tatgctaaca acaaaatata ttgggggaaat agaaaaaaat 420  
gaaatgtttt tttggattca agatccaaca ttattgctcc caaaccaa atagtaagcagc 480  
aaaaatttaa ttcccttttag cagtgggaact ttgtctataa acagcttaaa tcaagaagaa 540  
tatattttta aatccttaat caaaacaaat aatccaccaa tactaaaaat attgtcaaaa 600  
aagttaattc caaccgtctt gacaaacatg acaaacctca caatatcaag ccacataaag 660  
accacaataa aagaccaaaa tacgggttgaa atagaattta atattcaaaa atctagtgtt 720  
gaaagcctta tagaaaaact agcttcaaat attcaaacct aa 762

<210> 265  
<211> 136  
<212> PRT  
<213> Homo sapiens

<400> 265  
Met Gly Ile Thr Val Phe Tyr Leu Phe Ser Ile Phe Ala Ser Phe Val  
1 5 10 15  
Leu Gly Ser Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr  
20 25 30  
Ile Phe Tyr Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys  
35 40 45  
Gln Thr Leu Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe  
50 55 60  
Asn Phe Asp Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys  
65 70 75 80  
Lys Leu Ile Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe  
85 90 95

Gly Glu Ala Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly  
 100 105 110

Asp Ser Ile Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys  
 115 120 125

Ser Tyr Ile Ser Asn Tyr Asn Lys  
 130 135

<210> 266  
 <211> 117  
 <212> PRT  
 <213> Homo sapiens

<400> 266  
 Ser Met Asp Ser Val Lys Glu Asn Val Leu Lys Ser Thr Ile Phe Tyr  
 1 5 10 15

Tyr Asp Val Glu Glu Val Glu Phe Pro Tyr Ala Arg Lys Gln Thr Leu  
 20 25 30

Gln Phe Ile Ala Lys Thr His Leu Lys Tyr Ala Val Phe Asn Phe Asp  
 35 40 45

Lys Asn Lys Met Phe Ser Tyr Thr Phe Val Phe Asp Lys Lys Leu Ile  
 50 55 60

Ser Gln Tyr Ala Ile Phe Ile Glu Val Lys Lys Lys Phe Gly Glu Ala  
 65 70 75 80

Thr Leu Val Thr Pro Leu Asn Tyr Leu Trp Asp Leu Gly Asp Ser Ile  
 85 90 95

Ile Val Leu Asn Lys Asn Ile Leu Arg Ile Thr Leu Lys Ser Tyr Ile  
 100 105 110

Ser Asn Tyr Asn Lys  
 115

<210> 267  
 <211> 411  
 <212> DNA  
 <213> Homo sapiens

<400> 267  
 atgggtatta cagtttttta tttatcttct atttttgcat cttttgttct gggttctagc 60  
 atggattctg ttaaagagaa tgttctcaag agcactatct tttattatga tgttgaagaa 120  
 gttgaatttc cttatgctag gaagcagact ttacaattta ttgctaaaac ccatttaaaa 180  
 tatgctgttt ttaattttga caaaaataaa atgttttcgt acacttttgt ttttgataaa 240  
 aaattaatat ctacgtatgc aatcttttatt gaggtaaaaga aaaagtttgg cgaggctaca 300  
 ctagtaacgc ctttgaatta tttatgggat cttggtgatt ctattattgt tttaaataaa 360  
 aatattttta gaattacttt aaaatcttat atttcaaatt ataataaatg a 411

<210> 268  
 <211> 354  
 <212> DNA  
 <213> Homo sapiens

<400> 268  
 agcatggatt ctgttaaaga gaatgttctc aagagcacta ttttttatta tgatgttgaa 60

gaagttgaat ttccttatgc taggaagcag actttacaat ttattgctaa aacccattta 120  
 aaatatgctg tttttaattt tgacaaaaat aaaatgtttt cgtacacttt tgtttttgat 180  
 aaaaaattaa tatctcagta tgcaattttt attgaggtaa agaaaaagtt tggcgaggct 240  
 acactagtaa cgcctttgaa ttatttatgg gatcttggtg attctattat tgttttaaat 300  
 aaaaatattt taagaattac tttaaaatct tatatttcaa attataataa atga 354

<210> 269  
 <211> 449  
 <212> PRT  
 <213> Homo sapiens

<400> 269  
 Met Tyr Met Glu Asn Ile Glu Val Arg Gly Gln Pro Asn Phe Phe Gly  
 1 5 10 15  
 Leu Ile Pro Phe Phe Val Phe Ile Ile Ile Tyr Leu Gly Thr Gly Ile  
 20 25 30  
 Tyr Leu Gly Val Ile Gly Val Glu Met Ala Phe Tyr Gln Leu Pro Ala  
 35 40 45  
 Ser Val Ala Met Phe Phe Ala Ser Ile Val Cys Phe Leu Val Phe Lys  
 50 55 60  
 Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys Gly Ala Ala Gln  
 65 70 75 80  
 Tyr Asp Ile Ile Leu Met Cys Leu Ile Phe Met Leu Ser Gly Ala Phe  
 85 90 95  
 Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr Val Ala Asn Leu  
 100 105 110  
 Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser Gly Ile Phe Phe  
 115 120 125  
 Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser Val Gly Ser Ile  
 130 135 140  
 Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val Lys Ser Gly Ile  
 145 150 155 160  
 Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly Ala Met Phe Gly  
 165 170 175  
 Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val Ser Ser Arg Thr  
 180 185 190  
 Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser Ser Phe Tyr Ala  
 195 200 205  
 Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe Phe Leu Ser Glu  
 210 215 220  
 Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser Ser Ile Asp Leu  
 225 230 235 240  
 Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe Ser Leu Ala Gly  
 245 250 255

Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu Ser Ile Cys Leu  
 260 265 270  
 Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp Val Met Lys Asn  
 275 280 285  
 Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile Phe Leu Ser Ile  
 290 295 300  
 Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn Gly Gly Phe Lys  
 305 310 315 320  
 Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly Lys Ser Ser Ala  
 325 330 335  
 Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp Val Phe Leu Ala  
 340 345 350  
 Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val Ala Lys Lys Ile  
 355 360 365  
 Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala Ser Ile Leu Asp  
 370 375 380  
 Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr Gly Ala Gln Met  
 385 390 395 400  
 Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser Pro Ile Ser Ile  
 405 410 415  
 Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe Phe Val Ile Leu  
 420 425 430  
 Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu Phe Phe Leu Lys  
 435 440 445

Lys

<210> 270  
 <211> 389  
 <212> PRT  
 <213> Homo sapiens

<400> 270  
 Leu Val Phe Lys Gly Lys Phe Ser Asp Lys Ile His Ile Phe Ile Lys  
 1 5 10 15  
 Gly Ala Ala Gln Tyr Asp Ile Ile Leu Met Cys Leu Ile Phe Met Leu  
 20 25 30  
 Ser Gly Ala Phe Ser Ser Leu Cys Lys Glu Ile Gly Cys Val Glu Thr  
 35 40 45  
 Val Ala Asn Leu Gly Ile Lys Tyr Ile Asn Pro Asn Trp Ile Val Ser  
 50 55 60  
 Gly Ile Phe Phe Val Thr Cys Phe Leu Ser Phe Ser Ala Gly Thr Ser  
 65 70 75 80

Val Gly Ser Ile Val Ala Ile Ala Pro Ile Ala Phe Asn Ile Ala Val  
 85 90 95  
 Lys Ser Gly Ile Asn Pro Asn Leu Ile Ala Ala Ser Val Met Cys Gly  
 100 105 110  
 Ala Met Phe Gly Asp Asn Leu Ser Leu Ile Ser Asp Thr Thr Ile Val  
 115 120 125  
 Ser Ser Arg Thr Gln Gly Ser Ser Ile Leu Asp Val Phe Ile Ser Ser  
 130 135 140  
 Ser Phe Tyr Ala Phe Pro Ser Ala Ile Leu Thr Phe Phe Ser Phe Phe  
 145 150 155 160  
 Phe Leu Ser Glu Asn Leu Ser Asn Ala Thr Asn Phe Leu His Glu Ser  
 165 170 175  
 Ser Ile Asp Leu Val Lys Thr Val Pro Tyr Leu Met Ile Ile Phe Phe  
 180 185 190  
 Ser Leu Ala Gly Met Asn Val Phe Ile Val Leu Phe Leu Gly Ile Leu  
 195 200 205  
 Ser Ile Cys Leu Ile Ser Val Leu Tyr Gly Asn Leu Tyr Phe Leu Asp  
 210 215 220  
 Val Met Lys Asn Ile Asn Lys Gly Phe Leu Asn Met Ala Asp Leu Ile  
 225 230 235 240  
 Phe Leu Ser Ile Leu Thr Gly Gly Val Ser Phe Ala Val Ile His Asn  
 245 250 255  
 Gly Gly Phe Lys Trp Leu Leu Ile Lys Leu Lys Ser Leu Ile Arg Gly  
 260 265 270  
 Lys Ser Ser Ala Glu Phe Ser Ile Gly Ala Phe Val Ser Ile Val Asp  
 275 280 285  
 Val Phe Leu Ala Asn Asn Thr Ile Ala Ile Leu Ile Cys Gly Lys Val  
 290 295 300  
 Ala Lys Lys Ile Ala Phe Glu Asn Asn Ile Ser Val Gln Arg Ser Ala  
 305 310 315 320  
 Ser Ile Leu Asp Met Phe Ser Cys Ile Phe Gln Gly Ile Ile Pro Tyr  
 325 330 335  
 Gly Ala Gln Met Ile Ile Leu Val Asn Phe Ser Asn Gly Leu Val Ser  
 340 345 350  
 Pro Ile Ser Ile Leu Pro Phe Leu Val Tyr Phe Gly Phe Leu Leu Phe  
 355 360 365  
 Phe Val Ile Leu Ser Ile Leu Gly Leu Asp Ile Lys Lys Val Phe Leu  
 370 375 380  
 Phe Phe Leu Lys Lys  
 385

<210> 271  
 <211> 1350  
 <212> DNA  
 <213> Homo sapiens

<400> 271  
 atgtatatgg aaaatattga agtaagaggg cagccaaatt tttttgggct ttttcctttt 60  
 tttgttttta ttattatcta tttaggcacg gggattttatt tgggagttat tgggtgtagaa 120  
 atggcctttt atcaactgcc ggctagtggt gcaatgtttt ttgcttccat tgtttgtttt 180  
 ttggtattta aaggaaaatt ttccgacaaa attcacatat ttattaaagg agcagctcag 240  
 tacgatatta tactaatgtg tcttattttt atgctttcgg gagctttctc ttctctttgt 300  
 aaagaaatag gctgcgttga aactgtagca aatttgggaa ttaaataat taatcctaata 360  
 tggattgttt ctggtatatt ttttgtaacc tgctttcttt ctttttctgc cggcacttct 420  
 gttggatcta tcggtgcaat tgctcctatt gcttttaata ttgctgttaa aagcggcatt 480  
 aatccgaatt taatagcagc atctgtaatg tgtggagcta tgtttggaga taatctttct 540  
 ttaatatcag atacaactat tgtttctagt cgaactcaag gtagtagcat cttagatgtt 600  
 tttattagta gcagttttta tgctttttcca tccgccatac taactttttt ttcttttttc 660  
 tttctttctg aaaatttgct caatgccaca aactttttac acgaaagttc aatagattta 720  
 gtgaaaactg tgccttattt aatgattata tttttctctt tagctggaat gaatgttttt 780  
 atagttcttt ttttaggtat tctttctata tgtcttatta gcgttttgta tggtaattta 840  
 tactttctag atgtaatgaa aaacattaat aaagggtttt taaatatggc ggatttgatt 900  
 tttctttcaa ttttaacagg gggagtttct tttgccgtga ttcataatgg aggcctttaa 960  
 tggctactta ttaaattaaa atccttgatt agaggaaaaa gttcagcgga attttctatt 1020  
 ggggcttttg tttcaatagt tgatgttttt cttgctaata acacaattgc catacttatt 1080  
 tgcggcaaaag tagcaaaaaa gatagctttt gaaaataaca tcagtgttca aagaagtgtc 1140  
 tctatttttag atatgttctc ttgtattttt caaggcatta ttccttatgg tgcgcaaatg 1200  
 attatttttag tgaatttttc aaatggactt gtgtcgccaa ttagtatttt gccattttta 1260  
 gtttattttg gattttttatt gttttttgtt attttatcta ttttgggcct tgatataaaa 1320  
 aaagtttttt tatttttttt aaaaaataa 1350

<210> 272  
 <211> 1170  
 <212> DNA  
 <213> Homo sapiens

<400> 272  
 ttggtattta aaggaaaatt ttccgacaaa attcacatat ttattaaagg agcagctcag 60  
 tacgatatta tactaatgtg tcttattttt atgctttcgg gagctttctc ttctctttgt 120  
 aaagaaatag gctgcgttga aactgtagca aatttgggaa ttaaataat taatcctaata 180  
 tggattgttt ctggtatatt ttttgtaacc tgctttcttt ctttttctgc cggcacttct 240  
 gttggatcta tcggtgcaat tgctcctatt gcttttaata ttgctgttaa aagcggcatt 300  
 aatccgaatt taatagcagc atctgtaatg tgtggagcta tgtttggaga taatctttct 360  
 ttaatatcag atacaactat tgtttctagt cgaactcaag gtagtagcat cttagatgtt 420  
 tttattagta gcagttttta tgctttttcca tccgccatac taactttttt ttcttttttc 480  
 tttctttctg aaaatttgct caatgccaca aactttttac acgaaagttc aatagattta 540  
 gtgaaaactg tgccttattt aatgattata tttttctctt tagctggaat gaatgttttt 600  
 atagttcttt ttttaggtat tctttctata tgtcttatta gcgttttgta tggtaattta 660  
 tactttctag atgtaatgaa aaacattaat aaagggtttt taaatatggc ggatttgatt 720  
 tttctttcaa ttttaacagg gggagtttct tttgccgtga ttcataatgg aggcctttaa 780  
 tggctactta ttaaattaaa atccttgatt agaggaaaaa gttcagcgga attttctatt 840  
 ggggcttttg tttcaatagt tgatgttttt cttgctaata acacaattgc catacttatt 900  
 tgcggcaaaag tagcaaaaaa gatagctttt gaaaataaca tcagtgttca aagaagtgtc 960  
 tctatttttag atatgttctc ttgtattttt caaggcatta ttccttatgg tgcgcaaatg 1020  
 attatttttag tgaatttttc aaatggactt gtgtcgccaa ttagtatttt gccattttta 1080  
 gtttattttg gattttttatt gttttttgtt attttatcta ttttgggcct tgatataaaa 1140  
 aaagtttttt tatttttttt aaaaaataa 1170

<210> 273  
 <211> 241  
 <212> PRT

<213> Homo sapiens

<400> 273

Met Arg Lys Cys Phe Val Ser Leu Ser Leu Leu Leu Ile Phe Phe Ala  
1 5 10 15  
Cys Ser Ser Asn Val Glu Ile Glu Leu Asn Asp Asp Ile Ser Gly Ile  
20 25 30  
Val Ser Ile Phe Val Asn Val Asn Arg Glu Phe Glu Lys Ile Arg Lys  
35 40 45  
Glu Leu Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu  
50 55 60  
Phe Pro Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys  
65 70 75 80  
Leu Gly Leu Lys Leu Leu Ser Ile Lys Thr Gln Gly Asp Ser Ile Asn  
85 90 95  
Leu Val Val Lys Phe Asp Asn Leu Ile Lys Ile Leu Gly Asp Tyr Met  
100 105 110  
Lys Lys Pro Asp Ile Ser Val Phe Lys Ile Glu Lys Lys Asp Gly Lys  
115 120 125  
Asn Ile Ile Glu Leu Asn Ile Asn Leu Glu Asn Ala Thr Lys Asn Ile  
130 135 140  
Asn Glu Asn Lys Glu Tyr Ile Ser Asp Ala Leu Ala Ala Leu Leu Pro  
145 150 155 160  
Ser Asp Glu Ile Pro Met Ser Ala Lys Glu Tyr Lys Asp Val Leu Val  
165 170 175  
Tyr Phe Leu Ser Asp Phe Thr Ser Lys Ala Ser Glu Leu Ile Asp Asn  
180 185 190  
Ser Lys Leu Asn Leu Val Val Lys Thr Ser Arg Asn Val Gln Glu Gln  
195 200 205  
Phe Gly Phe Lys Gln Ile Asn Ser Asn Thr Leu Arg Phe Glu Met Asp  
210 215 220  
Met Val Lys Gly Leu Ser Leu Glu Thr Pro Ile Lys Leu Arg Leu Val  
225 230 235 240  
Tyr

<210> 274

<211> 223

<212> PRT

<213> Homo sapiens

<400> 274

Ser Asn Val Glu Ile Glu Leu Asn Asp Asp Ile Ser Gly Ile Val Ser  
1 5 10 15



Ile Phe Val Asn Val Asn Arg Glu Phe Glu Lys Ile Arg Lys Glu Leu  
 20 25 30  
 Leu Thr Thr Leu Val Gly Glu Glu Ile Ala Asn Met Pro Leu Phe Pro  
 35 40 45  
 Val Asp Glu Ile Lys Lys Tyr Phe Lys Asn Gly Glu Glu Lys Leu Gly  
 50 55 60  
 Leu Lys Leu Leu Ser Ile Lys Thr Gln Gly Asp Ser Ile Asn Leu Val  
 65 70 75 80  
 Val Lys Phe Asp Asn Leu Ile Lys Ile Leu Gly Asp Tyr Met Lys Lys  
 85 90 95  
 Pro Asp Ile Ser Val Phe Lys Ile Glu Lys Lys Asp Gly Lys Asn Ile  
 100 105 110  
 Ile Glu Leu Asn Ile Asn Leu Glu Asn Ala Thr Lys Asn Ile Asn Glu  
 115 120 125  
 Asn Lys Glu Tyr Ile Ser Asp Ala Leu Ala Ala Leu Leu Pro Ser Asp  
 130 135 140  
 Glu Ile Pro Met Ser Ala Lys Glu Tyr Lys Asp Val Leu Val Tyr Phe  
 145 150 155 160  
 Leu Ser Asp Phe Thr Ser Lys Ala Ser Glu Leu Ile Asp Asn Ser Lys  
 165 170 175  
 Leu Asn Leu Val Val Lys Thr Ser Arg Asn Val Gln Glu Gln Phe Gly  
 180 185 190  
 Phe Lys Gln Ile Asn Ser Asn Thr Leu Arg Phe Glu Met Asp Met Val  
 195 200 205  
 Lys Gly Leu Ser Leu Glu Thr Pro Ile Lys Leu Arg Leu Val Tyr  
 210 215 220

<210> 275

<211> 726

<212> DNA

<213> Homo sapiens

<400> 275

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 agagaatttg aaaaaattag aaaagaactc ttaacaactt tgggtgggaga agaaattgca 180  
 aatatgcctc tttttcctgt agatgaaata aaaaaatact ttaaaaaatgg agaggaaaag 240  
 cttgggctta agctttttgag tattaaaacc caaggagatt ctattaattt agttgttaag 300  
 tttgataatt taattaaaat tttaggcgat tatatgaaaa aacccgatat atctgtgttt 360  
 aagatagaaa aaaaagatgg taaaaatatt attgaactta atattaattt ggaaaacgct 420  
 actaagaata ttaatgaaaa taaagaatat attagtgtatg cacttgctgc tcttttgcca 480  
 tcggatgaga tcccaatgtc tgccaaagaa tataaagatg ttttggttta ttttttatcg 540  
 gattttactt ccaaagcaag tgaacttatt gacaattcca aacttaatct ttagttaaag 600  
 acttctagaa atgttcaaga acaatttgga ttcaaacaaa ttaactcaaa cacactgcgg 660  
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 tattga 726

<210> 276

<211> 672  
 <212> DNA  
 <213> Homo sapiens

<400> 276  
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 attgcaaata tgcctctttt tctgtagat gaaataaaaa aatactttta aaatggagag 180  
 gaaaagcttg ggcttaagct tttgagtatt aaaacccaag gagattctat taatttagtt 240  
 gttaagtttg ataatttaaat taaaatttta ggcgattata tgaaaaaacc cgatatatct 300  
 gtgtttaaga tagaaaaaaa agatggtaaa aatattattg aacttaatat taatttgga 360  
 aacgctacta agaattattaa tgaaaataaa gaatatatta gtgatgcact tgctgctctt 420  
 ttgccatcgg atgagatccc aatgtctgcc aaagaatata aagatgtttt ggtttatttt 480  
 ttatcggatt ttacttccaa agcaagtga cttattgaca attccaaact taatcttgta 540  
 gttaagactt ctagaaatgt tcaagaacaa tttggattca aacaaattaa ctcaaacaca 600  
 ctgcggtttg agatggatat ggttaaagga ttaagtcttg aaacaccaat aaaacttaga 660  
 ttagtttatt ga 672

<210> 277  
 <211> 320  
 <212> PRT  
 <213> Homo sapiens

<400> 277  
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 Phe Leu Leu Phe Ala Gly Asp Tyr Lys Gly Leu Asp Phe Lys Ile Lys  
 20 25 30  
 Phe Phe Asn Gln Ser Ile Tyr Arg Val Asn Ser Asn Val Phe Ile Glu  
 35 40 45  
 Val Ser Leu Ser Asn Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly  
 50 55 60  
 Asp Ile Asn Ser Phe Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn  
 65 70 75 80  
 Ile Lys Val Lys Arg Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn  
 85 90 95  
 Val Ala Ile Pro Val Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe  
 100 105 110  
 Ser Val Val Ile Asn Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly  
 115 120 125  
 Val Tyr Phe Val Lys Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser  
 130 135 140  
 Lys Lys Lys Glu Ser Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe  
 145 150 155 160  
 Asp Glu Asn Pro Gly Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn  
 165 170 175  
 Asp Ile Gln Asp Ile Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile  
 180 185 190

Val Lys Tyr Leu Leu Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe  
 195 200 205  
 Phe Leu Tyr Leu Asp Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys  
 210 215 220  
 Ala Tyr Leu Tyr Lys Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val  
 225 230 235 240  
 Val Glu Glu Tyr Lys Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile  
 245 250 255  
 Ser Lys Ala Pro Asn Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp  
 260 265 270  
 Thr Ser Gly Lys Val Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe  
 275 280 285  
 Tyr Ile Ser Lys Arg Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr  
 290 295 300  
 Trp Ile Ile Tyr Asp Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
 305 310 315 320  
 <210> 278  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens  
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 20 25 30  
 Ala Ser Glu Ser Val Leu Thr Leu Glu Ile Gly Asp Ile Asn Ser Phe  
 35 40 45  
 Gly Phe Asp Phe Asp Val Thr Asp Thr Thr Asn Ile Lys Val Lys Arg  
 50 55 60  
 Pro Ile Glu Tyr Val Lys Lys Arg Ser Lys Asn Val Ala Ile Pro Val  
 65 70 75 80  
 Arg Asn Met Ser Leu Arg Pro Asn Glu Lys Phe Ser Val Val Ile Asn  
 85 90 95  
 Leu Asn Gln Phe Val Lys Phe Ser Lys Asp Gly Val Tyr Phe Val Lys  
 100 105 110  
 Gly Ile Phe Phe Pro Asp Ile Ser Asp Pro Ser Lys Lys Lys Glu Ser  
 115 120 125  
 Asn Ile Ile Thr Leu Phe Leu Asn Asp Gly Phe Asp Glu Asn Pro Gly  
 130 135 140  
 Ser Ile Asp Leu Val Asn Leu Ser Glu Asn Asn Asp Ile Gln Asp Ile  
 145 150 155 160

Leu Lys Lys Lys Lys Leu Ser Pro Asp Glu Ile Val Lys Tyr Leu Leu  
 165 170 175  
 Lys Ala Leu Gln Leu Gly Lys Lys Glu Lys Phe Phe Leu Tyr Leu Asp  
 180 185 190  
 Ile Glu Gly Leu Leu Leu Asn Asp Lys Gly Lys Ala Tyr Leu Tyr Lys  
 195 200 205  
 Gln Lys Leu Ser Pro Ile Pro Asn Lys Asn Val Val Glu Glu Tyr Lys  
 210 215 220  
 Glu Tyr Leu Trp Asn Ser Asn Asn Ser Asp Ile Ser Lys Ala Pro Asn  
 225 230 235 240  
 Lys Phe Ser Ile Ile Glu Thr Thr Tyr Ser Asp Thr Ser Gly Lys Val  
 245 250 255  
 Ile Ala Asp Leu Tyr Phe Asp Asp Gly Gln Phe Tyr Ile Ser Lys Arg  
 260 265 270  
 Tyr Thr Phe Phe Phe Lys Lys Tyr Asp Tyr Tyr Trp Ile Ile Tyr Asp  
 275 280 285  
 Tyr Ile Val Gln Asn Thr Gly Ile Lys Glu Lys  
 290 295

<210> 279  
 <211> 963  
 <212> DNA  
 <213> Homo sapiens

<400> 279  
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 gtcaatagta atgtttttat tgaagtttct ctagtaatg cgtctgagag tgttttaact 180  
 ttagaaatag gcgatattaa ttcttttggc tttgattttg atgttactga taccaccaat 240  
 attaaagtta aaagacctat tgaatatgtt aaaaagagat ctaaaaatgt tgcaattcct 300  
 gttagaaata tgagcttgag acctaataaa aaattttctg tagttattaa cttaaatcaa 360  
 tttgttaagt ttagtaaaga tggagtttat tttgttaagg gtattttttt ccagacatt 420  
 tcagatccat ctaagaaaaa agaatccaat attattacgc tttttttgaa tgatggtttt 480  
 gatgaaaatc caggtagcat agaccttggt aatttgtctg aaaataatga tattcaagat 540  
 atcttgaaaa agaaaaaatt atctcccgat gaaattgtta aatatttgtt aaaggcattg 600  
 cagcttgagg aaaaagaaaa gttcttttta tatcttgata ttgaagggtt gttattaaat 660  
 gacaagggca aggcatacct ttataagcaa agttatcac ctattcccaa taaaaatgta 720  
 gttgaagagt ataaagaata tttgtggaat tctaataatt cggatatttc aaaagcacca 780  
 aataaatttt ctattattga aactacttat tctgatactt ctggcaagggt gattgctgat 840  
 ttatattttg acgatgggca attttatatt tccaaaagat atactttctt ctttaaaaaa 900  
 tatgattatt attggataat ttatgattac attgttcaaa atactggcat taaggaaaag 960  
 taa 963

<210> 280  
 <211> 900  
 <212> DNA  
 <213> Homo sapiens

<400> 280  
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 aatagtaatg tttttattga agtttctctt agtaatgcgt ctgagagtgt ttttaacttta 120  
 gaaataggcg atattaattc ttttggcttt gattttgatg ttactgatac caccaatatt 180

aaagttaaaa gacctattga atatgttaaa aagagatcta aaaatgttgc aattcctggt 240  
 agaaatatga gcttgagacc taatgaaaaa ttttctgtag ttattaactt aaatcaattt 300  
 gttaagttaa gtaaagatgg agtttatttt gtttaagggtta tttttttccc agacatttca 360  
 gatccatcta agaaaaaaga atccaatatt attacgcttt ttttgaatga tggttttgat 420  
 gaaaatccag gtagcataga ccttggttaat ttgtctgaaa ataatgatat tcaagatatc 480  
 ttgaaaaaga aaaaattatc tcccgatgaa attgttaaatt atttgttaaa ggcattgcag 540  
 cttgggaaaa aagaaaagt ctttttatat cttgatattg aaggtttggt attaaatgac 600  
 aagggcaagg cataccttta taagcaaaag ttatcaccta ttcccaataa aaatgtagtt 660  
 gaagagtata aagaatattt gtggaattct aataattcgg atatttcaaa agcaccaaatt 720  
 aaattttcta ttattgaaac tacttattct gatacttctg gcaagggtgat tgctgattta 780  
 tattttgacg atgggcaatt ttatatttcc aaaagatata ctttcttctt taaaaaatat 840  
 gattattatt ggataattta tgattacatt gttcaaaata ctggcattaa ggaaaagtaa 900

<210> 281  
 <211> 171  
 <212> PRT  
 <213> Homo sapiens

<400> 281  
 Met Asn Trp Leu Ser Phe Phe Tyr Val Leu Leu Phe Leu Leu Ile Phe  
 1 5 10 15  
 Pro Phe Glu Leu Gln Ser Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile  
 20 25 30  
 Lys Leu His Met Leu Tyr Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu  
 35 40 45  
 Glu Thr Ile Asn Lys Ile Lys Asn Phe Asp Leu Glu Gln His Tyr Leu  
 50 55 60  
 Leu Ile Thr Lys Tyr Tyr Leu Lys Ile Lys Lys Tyr Lys Glu Ala Asn  
 65 70 75 80  
 Asp Phe Leu Lys Lys Ile Asn Gln Lys Lys Ile Lys Asn Gln Lys Ile  
 85 90 95  
 Lys Asn Glu Ile Ile Ser Leu Lys Leu Arg Ile Asn Glu Asp Asn Ile  
 100 105 110  
 Asn Glu Glu Glu Ile Lys Lys Ile Leu Asn Asn Glu Lys Asn Ile Asp  
 115 120 125  
 Val Lys Ile Ile Tyr Gln Ile Phe Ser Leu Ile Lys Phe Lys Asn Lys  
 130 135 140  
 Lys Leu Ala Asn Lys Ile Lys Asn Ile Ile Leu Thr Asn Tyr Pro Lys  
 145 150 155 160  
 Ser Ile Tyr Ser Tyr Lys Ile Lys Arg Asn Glu  
 165 170

<210> 282  
 <211> 149  
 <212> PRT  
 <213> Homo sapiens

<400> 282  
 Asn Asn Lys Glu Asn Ile Glu Asn Leu Ile Lys Leu His Met Leu Tyr  
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Asp Leu Thr Asn Asn Leu Ser Lys Glu Leu Glu Thr Ile Asn Lys Ile  
 20 25 30  
 Lys Asn Phe Asp Leu Glu Gln His Tyr Leu Leu Ile Thr Lys Tyr Tyr  
 35 40 45  
 Leu Lys Ile Lys Lys Tyr Lys Glu Ala Asn Asp Phe Leu Lys Lys Ile  
 50 55 60  
 Asn Gln Lys Lys Ile Lys Asn Gln Lys Ile Lys Asn Glu Ile Ile Ser  
 65 70 75 80  
 Leu Lys Leu Arg Ile Asn Glu Asp Asn Ile Asn Glu Glu Glu Ile Lys  
 85 90 95  
 Lys Ile Leu Asn Asn Glu Lys Asn Ile Asp Val Lys Ile Ile Tyr Gln  
 100 105 110  
 Ile Phe Ser Leu Ile Lys Phe Lys Asn Lys Lys Leu Ala Asn Lys Ile  
 115 120 125  
 Lys Asn Ile Ile Leu Thr Asn Tyr Pro Lys Ser Ile Tyr Ser Tyr Lys  
 130 135 140  
 Ile Lys Arg Asn Glu  
 145

<210> 283  
 <211> 516  
 <212> DNA  
 <213> Homo sapiens

<400> 283  
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 cagagtaata ataaagaaaa tatagaaaat ttaataaagc tacatatgct ttatgattta 120  
 accaataacc tgtcaaaaaga attagaaaca ataaataaaa ttaaaaattt tgacttagaa 180  
 caacattatc tgctaattac aaaatattat ctaaaaataa aaaaatataa agaagctaatt 240  
 gattttttta aaaaaataaa ccaaaaaaag atcaaaaatc aaaaaataaa aaacgaaatc 300  
 atttcgctaa aattaagaat aaatgaagat aatattaatg aagaagaaat caaaaaaatt 360  
 ttaaataacg aaaaaaatat agatgtcaaa ataatttatc aaatattcag tcttataaaa 420  
 tttaaaaata aaaaattagc aaataaaaatt aaaaacataa tactaacaaa ctatcccaaa 480  
 agcattttatt cttataaaat aaaaagaaat gaataa 516

<210> 284  
 <211> 450  
 <212> DNA  
 <213> Homo sapiens

<400> 284  
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 aacctgtcaa aagaattaga aacaataaat aaaattaaaa attttgactt agaacaacat 120  
 tatctgctaa ttacaaaata ttatctaaaa ataaaaaaat ataaagaagc taatgatttt 180  
 ttaaaaaaaa taaacaaaaa aaagatcaaa aatcaaaaaa taaaaaacga aatcatttcg 240  
 ctaaaattaa gaataaatga agataatatt aatgaagaag aaatcaaaaa aatttttaaat 300  
 aacgaaaaaa atatatagatgt caaaataatt tatcaaatat tcagtccttat aaaattttaa 360  
 aataaaaaat tagcaataaa aattaaaaac ataatactaa caaactatcc caaaagcatt 420  
 tattcttata aaataaaaag aaatgaataa 450

<210> 285

<211> 405  
 <212> PRT  
 <213> Homo sapiens

<400> 285

Met	Asn	Ser	Ile	Tyr	Val	Ile	Gly	Lys	Leu	Leu	Leu	Thr	Leu	Phe	Leu
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			20					25					30		
Ile	Asn	Lys	Leu	Ser	Glu	Tyr	Ala	Lys	Ser	Ile	Val	Leu	Ile	Asp	Phe
		35					40					45			
Asp	Thr	Lys	Arg	Ile	Leu	Tyr	Ser	Lys	Lys	Pro	Asn	Leu	Val	Phe	Pro
	50					55					60				
Pro	Ala	Ser	Leu	Thr	Lys	Ile	Val	Thr	Ile	Tyr	Thr	Ala	Leu	Ile	Glu
65					70					75					80
Ala	Glu	Lys	Arg	Asn	Ile	Lys	Leu	Lys	Ser	Ile	Val	Pro	Ile	Ser	Asp
				85					90					95	
Ser	Ala	Ser	Tyr	Tyr	Asn	Ala	Pro	Pro	Asn	Ser	Ser	Leu	Met	Phe	Leu
			100					105					110		
Glu	Lys	Gly	Gln	Ile	Val	Asn	Phe	Glu	Glu	Ile	Leu	Lys	Gly	Leu	Ser
		115					120					125			
Val	Ser	Ser	Gly	Asn	Asp	Ser	Ser	Ile	Ala	Ile	Ala	Glu	Phe	Val	Val
	130					135					140				
Gly	Asn	Leu	Asn	Ser	Phe	Val	Asn	Leu	Met	Asn	Ile	Asn	Val	Leu	Asn
145					150					155					160
Leu	Gly	Leu	Phe	Asn	Met	His	Phe	Val	Glu	Pro	Ser	Gly	Tyr	Ser	Ser
				165					170					175	
Glu	Asn	Lys	Ile	Thr	Ala	Leu	Asp	Met	Ala	Phe	Phe	Val	Lys	Ser	Tyr
			180					185					190		
Ile	Glu	Lys	Phe	Lys	Phe	Met	Leu	Asn	Ile	His	Ser	Leu	Lys	Tyr	Phe
		195					200					205			
Ile	Tyr	Pro	Lys	Ser	Arg	Asn	Leu	Gly	Thr	Ala	Leu	Ser	Ser	Lys	Phe
	210					215					220				
Leu	Asn	Leu	Lys	Gln	Arg	Asn	Ala	Asn	Leu	Leu	Ile	Tyr	Asp	Tyr	Pro
225					230					235					240
Tyr	Ser	Asp	Gly	Ile	Lys	Thr	Gly	Tyr	Ile	Lys	Glu	Ser	Gly	Leu	Asn
			245						250					255	
Leu	Val	Ala	Thr	Ala	Lys	Lys	Gly	Glu	Arg	Arg	Leu	Ile	Ala	Val	Val
			260					265					270		
Leu	Gly	Val	Glu	Lys	Gly	Ile	Asn	Gly	Phe	Gly	Glu	Lys	Met	Arg	Ser
		275					280					285			
Ser	Ile	Ala	Lys	Asn	Leu	Phe	Glu	Tyr	Gly	Phe	Asn	Lys	Tyr	Ser	Lys

290		295		300
Phe Pro Leu Ile Val	Lys Leu Lys Glu Lys Val Tyr Asn Gly Thr Val			
305	310	315		320
Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe Tyr Tyr Ile Leu Thr				
	325	330		335
Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr Thr Val Asp Lys Leu				
	340	345		350
Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly Arg Ala Met Ile Phe				
	355	360		365
Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu Phe Ser Gly Lys Val				
	370	375		380
Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys Ser Phe Ile Asn Leu				
385	390	395		400
Phe Ser Arg Glu Tyr				
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<210> 286				
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<212> PRT				
<213> Homo sapiens				
<400> 286				
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	20	25		30
Asn Leu Val Phe Pro Pro Ala Ser Leu Thr Lys Ile Val Thr Ile Tyr				
	35	40		45
Thr Ala Leu Ile Glu Ala Glu Lys Arg Asn Ile Lys Leu Lys Ser Ile				
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Val Pro Ile Ser Asp Ser Ala Ser Tyr Tyr Asn Ala Pro Pro Asn Ser				
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Ser Leu Met Phe Leu Glu Lys Gly Gln Ile Val Asn Phe Glu Glu Ile				
	85	90		95
Leu Lys Gly Leu Ser Val Ser Ser Gly Asn Asp Ser Ser Ile Ala Ile				
	100	105		110
Ala Glu Phe Val Val Gly Asn Leu Asn Ser Phe Val Asn Leu Met Asn				
	115	120		125
Ile Asn Val Leu Asn Leu Gly Leu Phe Asn Met His Phe Val Glu Pro				
	130	135		140
Ser Gly Tyr Ser Ser Glu Asn Lys Ile Thr Ala Leu Asp Met Ala Phe				
145	150	155		160
Phe Val Lys Ser Tyr Ile Glu Lys Phe Lys Phe Met Leu Asn Ile His				



165	170	175
Ser Leu Lys Tyr Phe Ile Tyr Pro Lys Ser Arg Asn Leu Gly Thr Ala		
180	185	190
Leu Ser Ser Lys Phe Leu Asn Leu Lys Gln Arg Asn Ala Asn Leu Leu		
195	200	205
Ile Tyr Asp Tyr Pro Tyr Ser Asp Gly Ile Lys Thr Gly Tyr Ile Lys		
210	215	220
Glu Ser Gly Leu Asn Leu Val Ala Thr Ala Lys Lys Gly Glu Arg Arg		
225	230	235
Leu Ile Ala Val Val Leu Gly Val Glu Lys Gly Ile Asn Gly Phe Gly		
245	250	255
Glu Lys Met Arg Ser Ser Ile Ala Lys Asn Leu Phe Glu Tyr Gly Phe		
260	265	270
Asn Lys Tyr Ser Lys Phe Pro Leu Ile Val Lys Leu Lys Glu Lys Val		
275	280	285
Tyr Asn Gly Thr Val Asp Thr Val Ala Leu Phe Ser Lys Glu Pro Phe		
290	295	300
Tyr Tyr Ile Leu Thr Lys Asp Glu Phe Asp Lys Ile Asn Ile Ser Tyr		
305	310	315
Thr Val Asp Lys Leu Val Ala Pro Leu Ser Gly Asp Met Pro Val Gly		
325	330	335
Arg Ala Met Ile Phe Leu Glu Asn Glu Lys Ile Gly Asp Val Ala Leu		
340	345	350
Phe Ser Gly Lys Val Lys Arg Leu Gly Phe Trp Gln Gly Leu Tyr Lys		
355	360	365
Ser Phe Ile Asn Leu Phe Ser Arg Glu Tyr		
370	375	

<210> 287

<211> 1218

<212> DNA

<213> Homo sapiens

<400> 287

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aagtcaatag ttttaataga ttttgatact aagcgaatac tttattctaa gaagcccaat 180
ttggtttttc ctccagcatc tcttacaag attgttacaa tttatacagc ttttaattgaa 240
gctgaaaagc gaaatataaa attaaaaagc atagttccta ttagcgattc tgcttcatat 300
tataatgcac cccccaattc ttctttgatg tttttagaaa aagggtcaaat tgtaattttt 360
gaagagattt taaaaggact ttcagtttct tcgggtaatg attcttctat tgcaattgct 420
gagttttag taggcaattt aaatagcttt gttaatttaa tgaatattaa tgttttaaat 480
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aatattcatt ctttaaagta ttttatttat ccaaagagta gaaatttagg aactgctttg 660
tcatcaaaat ttttaaactt aaaacaaaga aatgctaatt tattaatata tgattaccct 720
tattcagatg gcattaaaac gggatatatt aaggaaatcag gcttaaactc tgttgctact 780

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gctaaaaagg gtgagagaag attaatagca gttgtattgg ggggtgaaaa aggaattaat 840
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gatacagttg ctcttttttc taaagagcct ttttattata ttttaactaa agatgaattt 1020
gataaaatta atataagtta tactgttgat aaattgggtg ctccacttag tgggggatatg 1080
cctgttggga gggctatgat ttttttagaa aatgaaaaaa taggggatgt tgctttgttt 1140
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<210> 288

<211> 1137

<212> DNA

<213> Homo sapiens

<400> 288

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cttaciaaaga ttgttacaat ttatacagct ttaattgaag ctgaaaagcg aaatataaaa 180
ttaaaaagca tagttcctat tagcgattct gcttcattat ataatgcacc cccaattct 240
tctttgatgt ttttagaaaa aggtcaaatt gttaattttg aagagatttt aaaaggactt 300
tcagtttctt cgggtaatga ttcttctatt gcaattgctg agtttgtagt aggcaattta 360
aatagctttg ttaattttaat gaatattaat gttttaaatt tagggctttt taatatgcat 420
tttgttgaac cttctgggata tagcagcgag aataagatta cagcactaga tatggctttt 480
tttgtgaaat cttatataga aaagttaaata tttatgctta atattcattc tttaaagtat 540
tttatttctc caaagagtag aaatttagga actgctttgt catcaaaatt tttaaactta 600
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ggatatatta aggaatcagg cttaaactct gttgctactg ctaaaaaggg tgagagaaga 720
ttaatagcag ttgtattggg ggttgaaaaa ggaattaatg gatttggaga gaaaatgaga 780
tcttcgattg caaaaaattt atttgaatat ggatttaata aatattctaa atttccttta 840
atagtaaaat taaaagaaaa agtctataat ggtacagtgg atacagtgtc tcttttttct 900
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tttttagaaa atgaaaaaat aggggatgtt gctttgttta gtggcaagg aaaaagatta 1080
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<210> 289

<211> 500

<212> PRT

<213> Homo sapiens

<400> 289

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Ile Ile Gly Leu Gly Ile Ile Lys Lys Pro Ala Tyr Tyr Val Ile Pro
          20          25          30
Ile Ser Leu Ile Ala Thr Val Ala Ile Val Ile Phe Tyr Lys Asn Leu
          35          40          45
Gly Ile Val Asn Thr Ser Leu Ala Met Leu Glu Gly Ala Leu Met Gly
          50          55          60
Ile Trp Pro Ile Ala Thr Val Ile Ile Ala Ala Ile Phe Thr Tyr Lys
          65          70          75          80
Met Ser Glu Asp Gln Lys Asp Ile Glu Thr Ile Lys Asn Ile Leu Ser
          85          90          95
Asn Val Ser Ser Asp Arg Arg Ile Ile Val Leu Leu Val Ala Trp Gly

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100					105					110					
Phe	Gly	Asn	Phe	Leu	Glu	Gly	Val	Ala	Gly	Tyr	Gly	Thr	Ala	Val	Ala
		115						120					125		
Ile	Pro	Val	Ser	Ile	Leu	Ile	Ala	Met	Gly	Phe	Glu	Pro	Phe	Phe	Ala
	130					135					140				
Cys	Leu	Ile	Cys	Leu	Ile	Met	Asn	Thr	Ser	Ser	Thr	Ala	Tyr	Gly	Ser
145					150					155					160
Val	Gly	Ile	Pro	Ile	Thr	Ser	Leu	Ala	Gln	Ala	Thr	Asn	Leu	Asp	Val
				165					170					175	
Asn	Ile	Val	Ser	Ser	Glu	Ile	Ala	Phe	Gln	Leu	Ile	Leu	Pro	Thr	Leu
			180					185					190		
Thr	Ile	Pro	Phe	Val	Leu	Val	Ile	Leu	Thr	Gly	Gly	Gly	Ile	Lys	Gly
		195					200						205		
Leu	Lys	Gly	Val	Phe	Leu	Leu	Thr	Leu	Leu	Ser	Gly	Met	Ser	Met	Ala
	210					215					220				
Ile	Ser	Gln	Val	Phe	Ile	Ser	Lys	Thr	Leu	Gly	Pro	Glu	Leu	Pro	Ala
225					230					235					240
Ile	Leu	Gly	Ser	Ile	Leu	Ser	Met	Thr	Ile	Thr	Ile	Val	Tyr	Ala	Arg
				245					250					255	
Phe	Phe	Gly	Asn	Lys	Glu	Thr	Thr	Glu	Arg	Gln	Ser	Lys	Asn	Thr	Ile
			260					265					270		
Ser	Leu	Ser	Lys	Gly	Ile	Ile	Ala	Cys	Ser	Pro	Tyr	Ile	Leu	Ile	Val
		275					280					285			
Thr	Phe	Ile	Val	Leu	Val	Ser	Pro	Leu	Phe	Asn	Lys	Ile	His	Glu	Tyr
	290					295					300				
Leu	Lys	Thr	Phe	Gln	Ser	Thr	Ile	Ser	Ile	Tyr	Pro	Glu	Ala	Asn	Pro
305					310					315					320
Leu	His	Phe	Lys	Trp	Ile	Ile	Ser	Pro	Gly	Phe	Leu	Ile	Ile	Leu	Ala
				325					330					335	
Thr	Thr	Ile	Ser	Tyr	Ser	Ile	Arg	Gly	Val	Pro	Met	Leu	Lys	Gln	Leu
			340					345					350		
Lys	Ile	Phe	Thr	Leu	Thr	Leu	Lys	Lys	Met	Ala	Leu	Ser	Ser	Phe	Ile
		355					360					365			
Ile	Ile	Cys	Ile	Val	Ala	Ile	Ser	Arg	Leu	Met	Thr	His	Ser	Gly	Met
		370				375					380				
Ile	Arg	Asp	Leu	Ala	Asn	Gly	Ile	Ser	Ile	Ile	Thr	Gly	Lys	Phe	Gly
385					390					395					400
Pro	Leu	Phe	Ser	Pro	Leu	Ile	Gly	Ala	Ile	Gly	Thr	Phe	Leu	Thr	Gly
				405					410					415	
Ser	Asp	Thr	Val	Ser	Asn	Val	Leu	Phe	Gly	Pro	Leu	Gln	Thr	Gln	Met

420	425	430
Ala Glu Asn Ile Gly Ala Asn Pro Tyr Trp Leu Ala Ala Ala Asn Thr		
435	440	445
Thr Gly Ala Thr Gly Gly Lys Met Ile Ser Pro Gln Asn Ile Thr Ile		
450	455	460
Ala Thr Thr Thr Ala Gly Leu Ile Gly Gln Glu Gly Lys Leu Leu Ser		
465	470	475 480
Lys Thr Ile Ile Tyr Ala Leu Tyr Tyr Ile Leu Ala Thr Gly Leu Leu		
	485 490	495
Val Tyr Leu Val		
500		
<210> 290		
<211> 416		
<212> PRT		
<213> Homo sapiens		
<400> 290		
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	20	25 30
Leu Glu Gly Val Ala Gly Tyr Gly Thr Ala Val Ala Ile Pro Val Ser		
	35	40 45
Ile Leu Ile Ala Met Gly Phe Glu Pro Phe Phe Ala Cys Leu Ile Cys		
	50	55 60
Leu Ile Met Asn Thr Ser Ser Thr Ala Tyr Gly Ser Val Gly Ile Pro		
	65	70 75 80
Ile Thr Ser Leu Ala Gln Ala Thr Asn Leu Asp Val Asn Ile Val Ser		
	85	90 95
Ser Glu Ile Ala Phe Gln Leu Ile Leu Pro Thr Leu Thr Ile Pro Phe		
	100	105 110
Val Leu Val Ile Leu Thr Gly Gly Gly Ile Lys Gly Leu Lys Gly Val		
	115	120 125
Phe Leu Leu Thr Leu Leu Ser Gly Met Ser Met Ala Ile Ser Gln Val		
	130	135 140
Phe Ile Ser Lys Thr Leu Gly Pro Glu Leu Pro Ala Ile Leu Gly Ser		
	145	150 155 160
Ile Leu Ser Met Thr Ile Thr Ile Val Tyr Ala Arg Phe Phe Gly Asn		
	165	170 175
Lys Glu Thr Thr Glu Arg Gln Ser Lys Asn Thr Ile Ser Leu Ser Lys		
	180	185 190
Gly Ile Ile Ala Cys Ser Pro Tyr Ile Leu Ile Val Thr Phe Ile Val		

195 200 205

Leu Val Ser Pro Leu Phe Asn Lys Ile His Glu Tyr Leu Lys Thr Phe  
210 215 220

Gln Ser Thr Ile Ser Ile Tyr Pro Glu Ala Asn Pro Leu His Phe Lys  
225 230 235 240

Trp Ile Ile Ser Pro Gly Phe Leu Ile Ile Leu Ala Thr Thr Ile Ser  
245 250 255

Tyr Ser Ile Arg Gly Val Pro Met Leu Lys Gln Leu Lys Ile Phe Thr  
260 265 270

Leu Thr Leu Lys Lys Met Ala Leu Ser Ser Phe Ile Ile Ile Cys Ile  
275 280 285

Val Ala Ile Ser Arg Leu Met Thr His Ser Gly Met Ile Arg Asp Leu  
290 295 300

Ala Asn Gly Ile Ser Ile Ile Thr Gly Lys Phe Gly Pro Leu Phe Ser  
305 310 315 320

Pro Leu Ile Gly Ala Ile Gly Thr Phe Leu Thr Gly Ser Asp Thr Val  
325 330 335

Ser Asn Val Leu Phe Gly Pro Leu Gln Thr Gln Met Ala Glu Asn Ile  
340 345 350

Gly Ala Asn Pro Tyr Trp Leu Ala Ala Ala Asn Thr Thr Gly Ala Thr  
355 360 365

Gly Gly Lys Met Ile Ser Pro Gln Asn Ile Thr Ile Ala Thr Thr Thr  
370 375 380

Ala Gly Leu Ile Gly Gln Glu Gly Lys Leu Leu Ser Lys Thr Ile Ile  
385 390 395 400

Tyr Ala Leu Tyr Tyr Ile Leu Ala Thr Gly Leu Leu Val Tyr Leu Val  
405 410 415

<210> 291  
<211> 1503  
<212> DNA  
<213> Homo sapiens

<400> 291

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gccttaatgg	ggatatggcc	aatagcaact	gtaattattg	ctgccatatt	tacatacaaa	240
atgtcagaag	atcaaaaaga	tatagaaact	attaaaaata	ttttatcaaa	cgtatcttct	300
gatagaagaa	ttatagtatt	actagttgca	tggggatttg	gaaatttttt	agaaggagtt	360
gctggatatg	gaactgctgt	tgcaattcct	gtatcaatat	taatagcaat	gggatttgaa	420
ccattttttg	cctgcttaat	ctgtttaata	atgaacacct	catcaaccgc	ctacggatct	480
gtgggaatcc	ctataacatc	tttagctcaa	gcaactaact	tggatgttaa	cattgtttca	540
tctgagattg	cattccaact	aatacttcca	accttaacaa	taccttttgt	actggttaatt	600
cttacaggag	ggggcattaa	aggattaaaa	ggagtattcc	ttcttacctt	actctcagga	660
atgtcaatgg	caatatctca	agtatttata	tcaaaaactt	tgggtccaga	acttcctgca	720
atccttggaa	gcattctttc	tatgacaata	acaatagttt	atgcaagggt	ttttggaaat	780

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aaagaaacta ctgagcgcca aagcaaaaac acaatatcct tatcaaaaagg aattattgcc 840
tgctcaccct acattttaat agtaactttt atagtgttg tatctcctct ttttaacaaa 900
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tattcaatac ggggagttcc aatgttaaaa cagctaaaaa tatttacatt aaccttgaaa 1080
aaaatggcat tatcttcctt tataatcata tgcattgttg caatatcaag attaattgaca 1140
catagtggaa tgataagaga tcttgcta at ggaatctcaa taataacagg taaatttgga 1200
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tactggcttg cagcagcaaa tacaacagga gcaactggag ggaaaatgat ttctcccaa 1380
aacatcacaa tagcaacaac aactgctgga ttaattggac aagaaggcaa gcttttatca 1440
aaaacaataa tttatgcttt atactacatt ttagcaacag gattgctagt ttatttagta 1500
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<210> 292  
 <211> 1171  
 <212> DNA  
 <213> Homo sapiens

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actgctgttg caattcctgt atcaatatta atagcaatgg gatttgaacc attttttgcc 180
tgcttaatct gtttaataat gaacacctca tcaaccgcct acggatctgt gggaatccct 240
ataacatctt tagctcaagc aactaacttg gatgttaaca ttgtttcatc tgagattgca 300
ttccaactaa tacttccaac cttacaata ccttttgtac tggttaattct tacaggagg 360
ggcattaaag gattaaaagg agtattcctt cttaccttac tctcaggaat gtcaatggca 420
atatctcaag tatttatata aaaaactttg ggtccagaac ttcttgcaat ccttggaagc 480
attcttttcta tgacaataac aatagtttat gcaaggtttt ttggaaataa agaaactact 540
gagcgccaaa gcaaaaacac aatatcctta tcaaaaaggaa ttattgcctg ctcaccctac 600
attttaatat taacttttat agtgcttgta tctcctcttt ttaacaaaat tcatgaatac 660
ctaaaaactt ttcaaagcac tattagcatt tatccagaag caaatccctt acacttttaa 720
tggattatct ctccgggctt cttgattata cttgcaacaa caatataccta ttcaatacgg 780
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tcttccttta taatcatatg cattgttgca atatcaagat taatgacaca tagtggaatg 900
ataagagatc ttgctaattg aatctcaata ataacaggt aatttggacc attatttagc 960
ccactaattg gagctatttg gacattttta acaggaagt atacggtttc aaatgttctt 1020
tttggaacct tacaacaca aatggcagaa aatattggag caaatcctta ctggcttgca 1080
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gcaacaacaa ctgctggatt aattggacaa g

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<210> 293  
 <211> 250  
 <212> PRT  
 <213> Homo sapiens

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<400> 293
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Ile Phe Asn Pro Val Leu Ile Ala Met Leu Phe Ile Leu Phe Pro Phe
      20              25              30

Ile Leu Ile Leu Phe Ser Phe Leu Gly Val Phe Arg Ile Tyr Phe Thr
      35              40              45

Arg Asp Tyr Ser Tyr Ser Arg Ser Arg Glu Phe Glu Phe Tyr Lys Leu
      50              55              60

Ser Phe Leu Leu Met Ala Lys Leu Leu Ser Ile Leu Gly Thr Val Thr

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65		70		75		80									
Gly	Glu	Gln	Leu	Asn	Tyr	Val	Asn	Phe	Ile	Ile	Asn	Ser	Leu	Asn	Leu
			85						90					95	
Ser	Glu	Arg	Gly	Lys	Ser	Glu	Leu	Tyr	Thr	Ile	Phe	His	Ser	Ala	Ile
			100					105					110		
Thr	Lys	Asn	Asn	Asn	Ala	Asp	Lys	Ile	Leu	Tyr	Thr	Leu	Lys	Leu	Gly
		115					120					125			
Tyr	Phe	Gln	His	Lys	Asp	Leu	Phe	Ile	Trp	Leu	Phe	Ala	Thr	Leu	Lys
	130					135					140				
Glu	Ile	Asn	Arg	Leu	Ser	Arg	Tyr	Lys	Asn	Leu	Glu	Ala	Glu	Lys	Phe
145					150					155					160
Ile	Ser	Tyr	Val	Gly	Val	Phe	Leu	Glu	Leu	Glu	Ser	Asp	Gly	Tyr	Glu
			165					170						175	
Ala	Tyr	Lys	Asp	Ile	Asn	Ile	Lys	Ile	Val	Asn	Pro	Tyr	Ser	Val	Leu
			180					185					190		
Gly	Leu	Thr	Tyr	Ser	Ala	Ser	Asp	Asp	Glu	Val	Lys	Lys	Ala	Tyr	Lys
		195					200					205			
Ser	Leu	Val	Ile	Lys	Tyr	His	Pro	Asp	Lys	Phe	Ala	Asn	Asp	Pro	Val
	210					215					220				
Arg	Gln	Lys	Asp	Ala	Asn	Asp	Lys	Phe	Ile	Lys	Ile	Gln	Asp	Ala	Tyr
225					230					235					240
Glu	Lys	Ile	Cys	Lys	Glu	Arg	Asn	Ile	Arg						
			245						250						

<210> 294  
 <211> 206  
 <212> PRT  
 <213> Homo sapiens

<400> 294															
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Phe	Tyr	Lys	Leu	Ser	Phe	Leu	Leu	Met	Ala	Lys	Leu	Leu	Ser	Ile	Leu
			20					25					30		
Gly	Thr	Val	Thr	Gly	Glu	Gln	Leu	Asn	Tyr	Val	Asn	Phe	Ile	Ile	Asn
		35					40					45			
Ser	Leu	Asn	Leu	Ser	Glu	Arg	Gly	Lys	Ser	Glu	Leu	Tyr	Thr	Ile	Phe
	50					55					60				
His	Ser	Ala	Ile	Thr	Lys	Asn	Asn	Asn	Ala	Asp	Lys	Ile	Leu	Tyr	Thr
65					70					75				80	
Leu	Lys	Leu	Gly	Tyr	Phe	Gln	His	Lys	Asp	Leu	Phe	Ile	Trp	Leu	Phe
			85						90					95	
Ala	Thr	Leu	Lys	Glu	Ile	Asn	Arg	Leu	Ser	Arg	Tyr	Lys	Asn	Leu	Glu

100	105	110
Ala Glu Lys Phe Ile Ser Tyr Val Gly Val Phe Leu Glu Leu Glu Ser		
115	120	125
Asp Gly Tyr Glu Ala Tyr Lys Asp Ile Asn Ile Lys Ile Val Asn Pro		
130	135	140
Tyr Ser Val Leu Gly Leu Thr Tyr Ser Ala Ser Asp Asp Glu Val Lys		
145	150	155
Lys Ala Tyr Lys Ser Leu Val Ile Lys Tyr His Pro Asp Lys Phe Ala		
165	170	175
Asn Asp Pro Val Arg Gln Lys Asp Ala Asn Asp Lys Phe Ile Lys Ile		
180	185	190
Gln Asp Ala Tyr Glu Lys Ile Cys Lys Glu Arg Asn Ile Arg		
195	200	205

<210> 295  
 <211> 753  
 <212> DNA  
 <213> Homo sapiens

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 ggtgttttta gaataactt tacaagggat tactcatatt ctagatctag agagtttgaa 180  
 ttttataaac tttctttttt attaattggct aaattgctat ctatttttagg aactgtaact 240  
 ggggagcagc taaattatgt caattttatt atcaattcct tgaatttgct tgaacgtggt 300  
 aaatcagaat tgtataccat ttttcattct gctattacta aaaataataa tgctgataaa 360  
 attttatata cccttaagct tgggtatttt cagcaciaag atctttttat atggcctttt 420  
 gccactctta aagaaattaa caggctttct aggtataaaa atttagaagc tgaaaaattt 480  
 atttcttatg ttggtgtttt tttagaactt gaatctgatg gttatgaagc ttataaagat 540  
 attaataatta aaattgtaaa tccttatagt gttttggggt taacatatag tgctagcgat 600  
 gatgagggtta aaaaggcgta taaaagcctt gttataaaat atcatcctga taagtttgca 660  
 aatgatcctg taagacaaaa agatgcaaat gataaattta taaaaattca agatgcttat 720  
 gaaaaaattt gcaaggaaag aatatagaag taa 753

<210> 296  
 <211> 621  
 <212> DNA  
 <213> Homo sapiens

<400> 296  
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 aattatgtca attttattat caattctttg aatttgctg aacgtggtaa atcagaattg 180  
 tataccattt ttcattctgc tattactaaa aataataatg ctgataaaaat tttatatacc 240  
 cttaagcttg gttattttca gcacaaagat ctttttatat ggctttttgc cactcttaaa 300  
 gaaatttaaca ggctttctag gtataaaaat ttagaagctg aaaaatttat ttcttatggt 360  
 ggtgtttttt tagaacttga atctgatggt tatgaagctt ataaagatat taatattaaa 420  
 attgtaaatc cttatagtgt tttgggggta acatatagtg cttagcgatga tgagggttaa 480  
 aaggcgata aaagccttgt tataaaatat catcctgata agtttgcaaa tgatcctgta 540  
 agacaaaaag atgcaaatga taaatttata aaaattcaag atgcttatga aaaaatttgc 600  
 aaggaaagaa atataaggta a 621

<210> 297  
 <211> 323



<212> PRT

<213> Homo sapiens

<400> 297

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Leu	Ser	Cys	Asn	Thr	Ser	Asp	Pro	Asn	Glu	Leu	Thr	Arg	Lys	Lys	Met	
			20					25					30			
Gln	Asp	Lys	Asn	Val	Lys	Ile	Leu	Gly	Phe	Leu	Glu	Lys	Ile	Gln	Ala	
		35					40					45				
Asp	Asn	Lys	Glu	Ile	Val	Glu	Lys	His	Ile	Glu	Lys	Lys	Glu	Lys	Gln	
	50					55					60					
Met	Val	Gln	Ala	Ala	Ser	Val	Ala	Pro	Ile	Asn	Val	Glu	Ser	Asn	Phe	
65					70					75					80	
Pro	Tyr	Tyr	Leu	Gln	Glu	Glu	Ile	Glu	Ile	Lys	Glu	Glu	Glu	Leu	Val	
			85						90					95		
Pro	Asn	Thr	Asp	Glu	Glu	Lys	Lys	Ala	Glu	Lys	Ala	Ile	Ser	Asp	Gly	
			100					105					110			
Ser	Leu	Glu	Phe	Ala	Lys	Leu	Val	Asp	Asp	Glu	Asn	Lys	Leu	Lys	Asn	
		115					120					125				
Glu	Ser	Ala	Gln	Leu	Glu	Ser	Ser	Phe	Asn	Asn	Val	Tyr	Lys	Glu	Ile	
	130					135						140				
Leu	Glu	Leu	Ala	Asp	Leu	Ile	Gln	Ala	Glu	Val	His	Val	Ala	Gly	Arg	
145					150					155					160	
Ile	Asn	Ser	Tyr	Ile	Lys	Lys	Arg	Lys	Thr	Thr	Lys	Glu	Lys	Glu	Tyr	
			165						170					175		
Lys	Lys	Arg	Glu	Ile	Lys	Asn	Lys	Ile	Glu	Lys	Gln	Ala	Leu	Ile	Lys	
			180					185					190			
Leu	Phe	Asn	Gln	Leu	Leu	Glu	Lys	Arg	Gly	Asp	Ile	Glu	Asn	Leu	His	
		195					200					205				
Thr	Gln	Leu	Asn	Ser	Gly	Leu	Ser	Glu	Arg	Ala	Ser	Ala	Lys	Tyr	Phe	
		210				215						220				
Phe	Glu	Lys	Ala	Lys	Glu	Thr	Leu	Lys	Ala	Ala	Ile	Thr	Glu	Arg	Leu	
225					230					235					240	
Asn	Asn	Lys	Arg	Lys	Asn	Arg	Pro	Trp	Trp	Ala	Arg	Arg	Thr	His	Ser	
			245						250					255		
Asn	Leu	Ala	Ile	Gln	Ala	Lys	Asn	Glu	Ala	Glu	Asp	Ala	Leu	Asn	Gln	
			260					265					270			
Leu	Ser	Thr	Ser	Ser	Phe	Arg	Ile	Leu	Glu	Ala	Met	Lys	Ile	Lys	Glu	
		275					280						285			
Asp	Val	Lys	Gln	Leu	Leu	Glu	Glu	Val	Lys	Ser	Phe	Leu	Asp	Ser	Ser	
		290				295					300					

Lys Ser Lys Ile Phe Ser Ser Gly Asp Arg Leu Tyr Asp Phe Leu Glu  
 305 310 315 320

Thr Ser Lys

<210> 298  
 <211> 299  
 <212> PRT  
 <213> Homo sapiens

<400> 298  
 Asn Glu Leu Thr Arg Lys Lys Met Gln Asp Lys Asn Val Lys Ile Leu  
 1 5 10 15

Gly Phe Leu Glu Lys Ile Gln Ala Asp Asn Lys Glu Ile Val Glu Lys  
 20 25 30

His Ile Glu Lys Lys Glu Lys Gln Met Val Gln Ala Ala Ser Val Ala  
 35 40 45

Pro Ile Asn Val Glu Ser Asn Phe Pro Tyr Tyr Leu Gln Glu Glu Ile  
 50 55 60

Glu Ile Lys Glu Glu Glu Leu Val Pro Asn Thr Asp Glu Glu Lys Lys  
 65 70 75 80

Ala Glu Lys Ala Ile Ser Asp Gly Ser Leu Glu Phe Ala Lys Leu Val  
 85 90 95

Asp Asp Glu Asn Lys Leu Lys Asn Glu Ser Ala Gln Leu Glu Ser Ser  
 100 105 110

Phe Asn Asn Val Tyr Lys Glu Ile Leu Glu Leu Ala Asp Leu Ile Gln  
 115 120 125

Ala Glu Val His Val Ala Gly Arg Ile Asn Ser Tyr Ile Lys Lys Arg  
 130 135 140

Lys Thr Thr Lys Glu Lys Glu Tyr Lys Lys Arg Glu Ile Lys Asn Lys  
 145 150 155 160

Ile Glu Lys Gln Ala Leu Ile Lys Leu Phe Asn Gln Leu Leu Glu Lys  
 165 170 175

Arg Gly Asp Ile Glu Asn Leu His Thr Gln Leu Asn Ser Gly Leu Ser  
 180 185 190

Glu Arg Ala Ser Ala Lys Tyr Phe Phe Glu Lys Ala Lys Glu Thr Leu  
 195 200 205

Lys Ala Ala Ile Thr Glu Arg Leu Asn Asn Lys Arg Lys Asn Arg Pro  
 210 215 220

Trp Trp Ala Arg Arg Thr His Ser Asn Leu Ala Ile Gln Ala Lys Asn  
 225 230 235 240

Glu Ala Glu Asp Ala Leu Asn Gln Leu Ser Thr Ser Ser Phe Arg Ile  
 245 250 255

Leu Glu Ala Met Lys Ile Lys Glu Asp Val Lys Gln Leu Leu Glu Glu  
 260 265 270

Val Lys Ser Phe Leu Asp Ser Ser Lys Ser Lys Ile Phe Ser Ser Gly  
 275 280 285

Asp Arg Leu Tyr Asp Phe Leu Glu Thr Ser Lys  
 290 295

<210> 299  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 299  
 atgaaaaaaaa aaaatattatc aattttacatg ataatgctaa taagttttatt atcatgtaat 60  
 acaagtgacc ccaatgaatt aactcgtaaa aaaatgcaag acaagaacgt gaaaatttta 120  
 ggatttttag agaaaaattca agcagataat aaagaaattg ttgaaaaaca tatagaaaaa 180  
 aaagaaaaaac aaatgggtgca ggctgcttct gtagcaccta ttaatgtaga gagtaatttc 240  
 ccatattatc ttcaagaaga aatagagata aaagaagaag agttgggtcc aaatactgat 300  
 gaagaaaaga aggcagagaa ggcaattagc gatgggagtc ttgaatttgc taaattagtt 360  
 gatgatgaaa ataaacttaa aaatgaatct ggcgaattag aatctagttt taataatggt 420  
 tataaagaaa tcttagaact tgcagattta atacaagcag aggtgcatgt tgcaggaagg 480  
 ataaatagct atataaaaaa agaaaagacc actaaagaaa aagaatataa gaagagagaa 540  
 attaagaata agatagaaaa acaggctcta attaagttgt tcaatcagtt attagaaaaa 600  
 agaggcgata ttgaaaatct tcatactcaa ttaaatagtg gacttagcga gagagcatct 660  
 gcaaaatact tttttgagaa agccaaagaa actttaaaag ctgctattac tgaaagatta 720  
 aataacaaac gtaaaaatcg gccatggtgg gcaagaagaa cacatagtaa tttagcaata 780  
 caggcaaaaa atgaggcaga ggatgcttta aaccaattaa gtacttcttc ttttaggata 840  
 cttgaagcaa tgaaaataaa ggaagatgta aaacagcttc ttgaagaagt aaaatctttt 900  
 ctagattctt caaagagcaa aatcttttct agtggcgata gatttatatga ttttttagag 960  
 acgagtaaat aa 972

<210> 300  
 <211> 900  
 <212> DNA  
 <213> Homo sapiens

<400> 300  
 aatgaattaa ctcgtaaaaa aatgcaagac aagaacgtga aaatttttagg attttttagag 60  
 aaaattcaag cagataataa agaaattggt gaaaaacata tagaaaaaaa agaaaaacaa 120  
 atgggtgcagg ctgcttctgt agcacctatt aatgtagaga gtaatttccc atattatctt 180  
 caagaagaaa tagagataaa agaagaagag ttgggtccaa atactgatga agaaaagaag 240  
 gcagagaagg caattagcga tgggagtctt gaatttgcta aattagttga tgatgaaaat 300  
 aaacttaaaa atgaatctgc gcaattagaa tctagtttta ataatgttta taaagaaatc 360  
 ttagaacttg cagatttaat acaagcagag gtgcatgttg caggaaggat aaatagctat 420  
 ataaaaaaaa gaaagaccac taaagaaaaa gaatataaga agagagaaat taagaataag 480  
 atagaaaaac aggtcttaat taagttgttc aatcagttat tagaaaaaag aggcgatatt 540  
 gaaaatcttc atactcaatt aaatagtggg cttagcgaga gagcatctgc aaaatacttt 600  
 tttgagaaaag ccaaagaaac tttaaaagct gctattactg aaagattaaa taacaaacgt 660  
 aaaaatcggc catgggtggc aagaagaaca catagtaatt tagcaataca ggcaaaaaat 720  
 gaggcagagg atgcttttaa ccaattaagt acttcttctt ttaggatact tgaagcaatg 780  
 aaaataaagg aagatgtaaa acagcttctt gaagaagtaa aatcttttct agattcttca 840  
 aagagcaaaa tcttttctag tggcgataga ttatatgatt ttttagagac gagtaaataa 900

<210> 301  
 <211> 260  
 <212> PRT  
 <213> Homo sapiens

<400> 301

Met Asn Lys Lys Ile Leu Thr Leu Leu Val Leu Ile Leu Ser Ile Ser  
1 5 10 15

Ser Val Leu Met Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys  
20 25 30

Ile Ile Arg Asp Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile  
35 40 45

Glu Asn Lys Asp Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys  
50 55 60

Lys Leu Asn Asn Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu  
65 70 75 80

Ile Ser Asn Asn Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val  
85 90 95

Lys Gln Asn Met Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys  
100 105 110

Met Ile Ser Lys Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His  
115 120 125

Asn Lys Ile Ile Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp  
130 135 140

Tyr Gly Phe Ser Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys  
145 150 155 160

Lys Asn Phe Lys Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp  
165 170 175

Lys Asn Asn Lys His Leu Phe Leu Val Thr Ile Glu Gly Arg Gly Val  
180 185 190

Asn Asn Ser Lys Gly Ala Ser Leu Asn Glu Ala Ile Asp Phe Ala Leu  
195 200 205

Ser Tyr Gly Met Thr Asn Ala Ile Asn Leu Asp Gly Gly Gly Ser Ser  
210 215 220

Thr Leu Val Val Lys Ser Asn Asn Ala Pro Tyr Lys Leu Asn Phe Thr  
225 230 235 240

Ala Asn Ile Phe Gly Gln Glu Arg Pro Val Pro Phe His Leu Gly Ile  
245 250 255

Lys Leu Pro Asn  
260

<210> 302

<211> 240

<212> PRT

<213> Homo sapiens

<400> 302

Leu Ser Lys Ser Ile Thr Lys Lys Ser Lys Tyr Lys Ile Ile Arg Asp

1                      5                      10                      15  
 Tyr Phe Ile Asn Ser Asn Tyr Val Leu Val Lys Ile Glu Asn Lys Asp  
                          20                                      25                                      30  
 Leu Lys Phe Thr Ile Ser Lys Pro Ile Tyr Asp Lys Lys Leu Asn Asn  
                          35                                      40                                      45  
 Tyr Phe Phe Lys Gly Gln Thr Thr Ser His Phe Leu Ile Ser Asn Asn  
                          50                                      55                                      60  
 Val Asp Ile Ala Ile Asn Thr Ser Pro Tyr Glu Val Lys Gln Asn Met  
                          65                                      70                                      75                                      80  
 Phe Phe Pro Lys Gly Leu Tyr Ile Tyr Asn Lys Lys Met Ile Ser Lys  
    85                                      90                                      95  
 Gln Ile Asn Asn Tyr Gly Glu Ile Val Ile Lys His Asn Lys Ile Ile  
    100                                      105                                      110  
 Leu Asn Pro Lys Glu Asp Glu Ile Glu Asn Cys Asp Tyr Gly Phe Ser  
    115                                      120                                      125  
 Gly Phe Phe Val Leu Ile Lys Asn Gly Lys Tyr Lys Lys Asn Phe Lys  
    130                                      135                                      140  
 Glu Thr Arg His Pro Arg Thr Ile Ile Gly Thr Asp Lys Asn Asn Lys  
    145                                      150                                      155                                      160  
 His Leu Phe Leu Val Thr Ile Glu Gly Arg Gly Val Asn Asn Ser Lys  
    165                                      170                                      175  
 Gly Ala Ser Leu Asn Glu Ala Ile Asp Phe Ala Leu Ser Tyr Gly Met  
    180                                      185                                      190  
 Thr Asn Ala Ile Asn Leu Asp Gly Gly Gly Ser Ser Thr Leu Val Val  
    195                                      200                                      205  
 Lys Ser Asn Asn Ala Pro Tyr Lys Leu Asn Phe Thr Ala Asn Ile Phe  
    210                                      215                                      220  
 Gly Gln Glu Arg Pro Val Pro Phe His Leu Gly Ile Lys Leu Pro Asn  
    225                                      230                                      235                                      240

<210> 303  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

<400> 303  
 atgaataaaa aaatattaac actgctagta ttgatttttaa gtatttcatc agtactaatg 60  
 ctgtccaaat caatcaccaa aaaatccaaa tacaaaatta ttagggatta ttccataaac 120  
 agcaattatg ttctggtgaa aattgaaaat aaagatctaa aatttaccat atcaaaacct 180  
 atttacgaca aaaagctaaa taattacttc tttaaaggcc aaacaacaag ccatctctta 240  
 atttctaaca atgttgacat tgcaattaac acaagtccat acgaagttaa acaaaacatg 300  
 tttttcccaa aaggactata catatataat aaaaaaatga tttcaaaaca aataaataac 360  
 tacggagaga ttgtaataaa gcacaacaaa attatattaa atcccaagga agacgaaata 420  
 gaaaactgcg attatggatt tagcggattt tttgttttaa tcaaaaacgg aaagtataaa 480  
 aaaaatttta aagaaacaag gcacccaaga acaataatag gaactgataa aaataacaag 540  
 catttatttc ttgttacaat agaaggaagg ggtgtcaata atagcaaagg ggcctctctt 600

aatgaagcta ttgattttgc attaagctac ggcattgacta acgctattaa tctagacggg 660  
 ggggggtcaa gcactcttgt tgtaaaatca aataacgctc cttacaaatt aaacttcaca 720  
 gcaaacatct ttggacagga aagacctgtc ccatttcatt taggaataaa acttccta 780  
 tga 783

<210> 304  
 <211> 723  
 <212> DNA  
 <213> Homo sapiens

<400> 304  
 ctgtccaaat caatcaccaa aaaatccaaa tacaaaatta ttagggatta tttcataaac 60  
 agcaattatg ttctggtgaa aattgaaaat aaagatctaa aatttaccat atcaaaacct 120  
 atttacgaca aaaagctaaa taattacttc tttaaaggcc aaacaacaag ccatttctta 180  
 atttctaaca atgttgacat tgcaattaac acaagtccat acgaagttaa acaaaacatg 240  
 tttttcccaa aaggactata catatataat aaaaaaatga tttcaaaaca aataaataac 300  
 tacggagaga ttgtaataaa gcacaacaaa attatattaa atcccaagga agacgaaata 360  
 gaaaactgcg attatggatt tagcggattt tttgttttaa tcaaaaaacgg aaagtataaa 420  
 aaaaatttta aagaaacaag gcaccaaga acaataatag gaactgataa aaataacaag 480  
 catttatttc ttgttacaat agaaggaagg ggtgtcaata atagcaaagg ggcctctctt 540  
 aatgaagcta ttgattttgc attaagctac ggcattgacta acgctattaa tctagacggg 600  
 ggggggtcaa gcactcttgt tgtaaaatca aataacgctc cttacaaatt aaacttcaca 660  
 gcaaacatct ttggacagga aagacctgtc ccatttcatt taggaataaa acttccta 720  
 tga 723

<210> 305  
 <211> 237  
 <212> PRT  
 <213> Homo sapiens

<400> 305  
 Met Gln Leu Leu Lys Asn Lys Tyr Pro Phe Lys Arg Ala Leu Leu Asp  
 1 5 10 15  
 Leu Phe Leu Val Tyr Ala Ile Val Tyr Leu Ala Ser Pro Phe Val Asn  
 20 25 30  
 Val Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp  
 35 40 45  
 Ile Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu  
 50 55 60  
 Thr Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe  
 65 70 75 80  
 Lys Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile  
 85 90 95  
 Leu Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr  
 100 105 110  
 Leu Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly  
 115 120 125  
 Phe Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe  
 130 135 140  
 Thr Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe  
 145 150 155 160

Val Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala  
165 170 175

Ile Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile  
180 185 190

Leu Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr  
195 200 205

Tyr Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe  
210 215 220

Tyr Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
225 230 235

<210> 306

<211> 204

<212> PRT

<213> Homo sapiens

<400> 306

Asn Ser Glu Phe Trp Asn Val Asp Glu Asn His Phe Tyr Phe Trp Ile  
1 5 10 15

Ser Arg Ser Phe Leu Ile Ile Phe Ile Ile Tyr Phe Phe Lys Leu Thr  
20 25 30

Ser Ser Tyr Asp Asp Phe Arg Val Glu Phe Phe Ile Pro Lys Phe Lys  
35 40 45

Phe Ile Phe Leu Trp Asp Ser Val Leu Ile Phe Ile Lys Thr Ile Leu  
50 55 60

Ile Ala Met Ile Val Ile Phe Leu Ile Ala Phe Leu Leu Glu Tyr Leu  
65 70 75 80

Leu Pro Glu Ser Val Leu Val Tyr Tyr Phe Gln Asn Asn Ala Gly Phe  
85 90 95

Asn Trp Lys Ile Ser Ser Lys Lys Ala Phe Phe Leu Met Thr Phe Thr  
100 105 110

Ser Phe Phe Thr Gly Ala Phe Glu Glu Leu Phe Tyr Arg Ala Phe Val  
115 120 125

Ile Thr Lys Phe Thr Gln Met Gly Phe Pro Val Val Ala Thr Ala Ile  
130 135 140

Leu Ser Ser Met Phe Phe Ala Tyr Gly His Leu Tyr Tyr Gly Ile Leu  
145 150 155 160

Gly Phe Leu Val Thr Phe Ile Leu Gly Ile Phe Phe Ala Phe Thr Tyr  
165 170 175

Leu Arg Tyr Lys Asn Val Tyr Tyr Val Ile Phe Ile His Ser Phe Tyr  
180 185 190

Asn Ile Ile Val Ser Ser Leu Leu Leu Phe Leu Asn  
195 200

<210> 307  
 <211> 714  
 <212> DNA  
 <213> Homo sapiens

<400> 307  
 atgcaattgt taaaaaataa atatccattc aagcgggctt tgcttgatct ttttttggtc 60  
 tatgctattg tttatttggc atctcctttt gtaaatgtta attcagaatt ttggaatggt 120  
 gatgaaaatc atttttattt ttggatttca agatcttttt taattatttt tataattttat 180  
 ttttttaaac ttaccagttc ttatgatgat tttagagtag agttttttat tcctaaattt 240  
 aaattttatt ttctttggga ttctgtttta atttttatta aaacaatatt gattgcaatg 300  
 atagtcattt ttttaatagc ttttttgctt gaatatttgt tgccagaatc ggtacttggt 360  
 tattattttc aaaacaatgc tggatttaat tggaagatta gcagtaaaaa agcatttttt 420  
 ttaatgactt ttacctcttt ttttacagga gcttttgaag aactttttta cagggtttt 480  
 gttattacta agtttacaca aatgggattt cctgtttag ctaccgccat tcttagtagt 540  
 atgttttttg cttatgggca tttatattat ggaatttttag gatttttggg tacatttata 600  
 ttagggatat tttttgcttt tactttatta aggtataaaa atgtatatta tgtgattttt 660  
 atacatagtt tttataatat tattgttagc agcttggtgc tttttttgaa ttaa 714

<210> 308  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<400> 308  
 aattcagaat tttggaatgt tgatgaaaat catttttatt tttggatttc aagatctttt 60  
 ttaattattt ttataattta tttttttaaa cttaccagtt cttatgatga ttttagagta 120  
 gagtttttta ttctaaatt taaatttatt tttctttggg attctgtttt aatttttatt 180  
 aaaacaatat tgattgcaat gatagtcatt tttttaatag cttttttgct tgaatatttg 240  
 ttgccagaat cgggtacttg ctattatttt caaaacaatg ctggatttaa ttggaagatt 300  
 agcagtaaaa aagcattttt tttaatgact tttacctctt tttttacagg agcttttgaa 360  
 gaactttttt acagggtttt tgttattact aagttttacac aaatgggatt tcctgttgta 420  
 gctaccgcca ttcttagtag tatgtttttt gcttatgggc atttatatta tggaatttta 480  
 ggatttttgg ttacatttat attagggata ttttttgctt ttacttattt aaggtataaa 540  
 aatgtatatt atgtgatttt tatacatagt ttttataata ttattgtag cagcttggtg 600  
 ctttttttga attaa 615

<210> 309  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 309  
 Met Lys Lys Tyr Leu Phe Phe Ile Leu Phe Leu Ile Ser Ser Asn Asn  
 1 5 10 15  
 Leu Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln  
 20 25 30  
 Phe Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn  
 35 40 45  
 Phe Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala  
 50 55 60  
 Asn Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr  
 65 70 75 80  
 His Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met



85

90

95

Val Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys  
 100 105 110

Tyr Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser  
 115 120 125

Met Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr  
 130 135 140

Ile Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys  
 145 150 155 160

Asn Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly  
 165 170 175

Trp Arg Phe Phe Asn  
 180

<210> 310

<211> 164

<212> PRT

<213> Homo sapiens

<400> 310

Ile Val Ser Tyr Pro Leu Ser Phe Gly Gly Gly Phe Ser Tyr Gln Phe  
 1 5 10 15

Thr Asn Tyr Thr Asp Lys Thr Gly Ala Thr Lys Phe Ala Pro Asn Phe  
 20 25 30

Thr Arg Ala Asp His Gly Ile Asn Leu Asn Leu Phe Phe Asp Ala Asn  
 35 40 45

Tyr Val Leu Phe Glu Met Ser Tyr Lys Glu Ala Phe Val Val Thr His  
 50 55 60

Asn Gly Arg Tyr Phe Ser Leu Gly Leu Tyr Gly Thr Tyr Pro Met Val  
 65 70 75 80

Phe Lys Glu Gln Val Arg Met Leu Phe Pro Leu Ile Gly Phe Lys Tyr  
 85 90 95

Ala Phe Asp Leu Ser Ser Asn Asn Phe Asn Leu Phe Phe Leu Ser Met  
 100 105 110

Gly Leu Ala Ala Asp Leu Phe Ile Pro Asp Leu Asp Gly Leu Tyr Ile  
 115 120 125

Arg Pro Leu Phe Met Leu Ser Ile Ser Pro Phe Ser Asn Tyr Lys Asn  
 130 135 140

Phe Ser Gly Leu Thr Thr Glu Ile Met Leu Gly Phe Asn Ile Gly Trp  
 145 150 155 160

Arg Phe Phe Asn

<210> 311

<211> 546  
 <212> DNA  
 <213> Homo sapiens

<400> 311  
 atgaagaaat atctttttttt tatttttattt ctcatctctt ctaataattt aattgtttct 60  
 tatccacttt cttttggtgg aggtttttct tatcaattta ctaattatac tgataaaaaca 120  
 ggcgccacta aatttgctcc aaattttacc agagcagatc atgggattaa tttgaattta 180  
 ttttttgatg caaattatgt actttttgaa atgtcttaca aagaggcttt tgttggtact 240  
 cacaatggga gatatttctc gcttgggctt tatggaacat atccaatggg tttcaaagag 300  
 cagggttagaa tgcttttccc attaatggg tttaaatatg cttttgattt aagctctaata 360  
 aacttcaatc tctttttttt aagcatgggg cttgctgctg atctttttat tcccgatctt 420  
 gatggtttat atattaggcc tttgtttatg ctttctattt ctccattttc taattataaaa 480  
 aatttttctg ggttaacaac tgagattatg cttggattta atatcggttg gagattttttc 540  
 aattag 546

<210> 312  
 <211> 495  
 <212> DNA  
 <213> Homo sapiens

<400> 312  
 attgtttctt atccactttc ttttggtgga gggtttttctt atcaatttac taattatact 60  
 gataaaaacag gcgcactaa atttgctcca aattttacca gagcagatca tgggattaat 120  
 ttgaatttat tttttgatgc aaattatgta ctttttgaaa tgtcttaca agaggctttt 180  
 gttgttactc acaatgggag atatttctcg cttgggcttt atggaacata tccaatgggt 240  
 ttcaaagagc aggttagaat gcttttccca ttaattgggt ttaaataatgc ttttgattta 300  
 agctctaata acttcaatct ctttttttta agcatggggc ttgctgctga tctttttatt 360  
 cccgatcttg atggtttata tattagacct ttgtttatgc tttctatttc tccattttct 420  
 aattataaaa atttttctgg gtttaacaact gagattatgc ttggatttaa tatcggttg 480  
 agatttttca attag 495

<210> 313  
 <211> 349  
 <212> PRT  
 <213> Homo sapiens

<400> 313  
 Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys Lys Arg Leu Ile Leu Asn  
 1 5 10 15  
 Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser Ser Glu Ser Ile Phe Ser  
 20 25 30  
 Gln Leu Gly Asn Leu Gln Lys Ile Lys His Glu Tyr Asn Ile Leu Gly  
 35 40 45  
 Ser Ser Ser Pro Arg Gly Ile Ser Leu Val Gly Glu Thr Leu Tyr Ile  
 50 55 60  
 Ala Ala Met His Leu Phe Lys Lys Glu Asn Gly Lys Ile Glu Lys Ile  
 65 70 75 80  
 Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn Asp Ile Val Asn Ile Ser  
 85 90 95  
 Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys Glu Glu Glu Leu Glu Val  
 100 105 110  
 Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu Lys Phe Lys Lys Pro Leu

115                      120                      125  
 Lys Ala Tyr Lys Phe Leu Lys Ser Val Gly Arg Asp Gly Val Lys Glu  
     130                      135                      140  
 Ala Tyr Ile Leu Ala Ile Asp Lys Asn Asn Arg Glu Lys Ile Phe Asp  
     145                      150                      155                      160  
 Leu Gln Gly Ser Asp Lys Thr Pro Pro Gln Ala Thr Glu Asn Asp Lys  
                     165                      170                      175  
 Phe Tyr Gln Ile Ser Asn Glu Glu Asn Leu Ile Thr Gly Asn Ser Leu  
                     180                      185                      190  
 Lys Ile Trp Gln Met Asn Asn Asn Thr Tyr Thr Asn Ile Asp Tyr Gln  
                     195                      200                      205  
 Gln Ala Lys Glu Ile Met Pro Ile Ile Lys Thr Ser Ile Arg Gly Ser  
                     210                      215                      220  
 Ser Glu Val Leu Val Met Thr Gly Gly Tyr Asn Asn Leu Asp Thr Lys  
     225                      230                      235                      240  
 Phe Lys Val Tyr Ser Asn Thr Asn Asn Tyr Thr Thr Pro Ile Phe Ile  
                     245                      250                      255  
 Gln Asp Glu Val Gly Glu Phe Ser Ser Tyr Phe Ala Arg Glu Phe Asn  
                     260                      265                      270  
 Asp Ala Ile Leu Ile Gly Ser Asn Asn Gly Phe Ala Glu Phe Thr Lys  
                     275                      280                      285  
 Asn Lys Glu Gly Ile Phe Ala Leu Arg Ala Pro Ser Lys Ser Val Glu  
                     290                      295                      300  
 Pro Gly Ala Tyr Asn Gly Ser Gln Leu Ser Lys Thr Gly Leu Asn Asp  
     305                      310                      315                      320  
 Ile Ile Pro Val Ser Asn Asn Thr Ile Tyr Ile Leu Thr Gln Gly Lys  
                     325                      330                      335  
 Gly Leu Trp Lys Leu Glu Asn Arg Lys Leu Thr Lys Glu  
                     340                      345

<210> 314

<211> 325

<212> PRT

<213> Homo sapiens

<400> 314

Cys Ser Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile  
     1                      5                      10                      15

Lys His Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser  
                     20                      25                      30

Leu Val Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys  
                     35                      40                      45

Glu Asn Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe



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ttactactag catgctcaag cgaatccata ttttcacaaat taggaaatct gcaaaaaata 120
aaacatgaat acaatatattt gggcagttca agtccaagag gaatttctct agtaggagaa 180
actctctaca ttgcagccat gcattttattt aaaaaaagaaa acggcaagat tgaaaaaatt 240
gattttgagca attctttatga gtttataaac gacattgttaa atatatctgg aaaaacctat 300
cttttagcgc aaaacaaaga agaagaatta gaagtttgcg agctaaatgg aaaagattgg 360
acattaaaaat ttaaaaaacc gctaaaagca tataaattct taaaatccgt aggaagagat 420
ggcgtaaaag aagcatatat tttagctata gataaaaaata atcgtgagaa aatttttgat 480
ctacaaggat ctgacaaaac accaccacaa gctactgaaa atgacaaatt ttatcaaata 540
tcaaatgaag aaaacttaat tacaggaaat tcactcaaaa tatggcaaata gaataacaat 600
acatacacaa acatagacta tcaacaggcc aaagaaataa tgcctatcat taaaacaagc 660
attaggggct cttctgaagt tttagtaatg actgggtggtt acaataattt agatacaaaa 720
tttaaagttt actcaaatac aaataattac acaacgccaa tattttattca agacgaagta 780
ggcgaattta gcagctactt tgcaagagaa tttaatgatg cgatattaat cggaagtaat 840
aatggatttg cagaattttac aaaaaataaa gaaggaattt ttgccctacg ggcacctca 900
aaatctgtag aacctggagc ttataacgga tctcagctaa gcaaacagg ccttaatgat 960
attattcctg tatcaacaa cagcatttac atattaactc agggcaaggg tttgtggaaa 1020
ttggaaaaca gaaaattaac taaagaataa 1050

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<210> 316

<211> 978

<212> DNA

<213> Homo sapiens

<400> 316

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tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60
aatatttttg gcagttcaag tccaagagga atttctctag taggagaaac tctctacatt 120
gcagccatgc atttatttaa aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180
tcttatgagt ttataaacga cattgtaaat atatctggaa aaacctatct tttagcgcaa 240
aacaagaag aagaattaga agtttgcgag ctaaattggaa aagattggac attaaaattt 300
aaaaaacgc taaaagcata taaattctta aaatccgtag gaagagatgg cgtaaaagaa 360
gcatatattt tagctataga taaaaataat cgtgagaaaa tttttgatct acaaggatct 420
gacaaaacac caccacaagc tactgaaaat gacaaatttt atcaaatac aaatgaagaa 480
aacttaatta caggaaattc actcaaaata tggcaaataa cctatcatta aaacaagcat taggggctct 600
atagactatc aacaggccaa agaaataatg cctatcatta aataatttag atacaaaatt taaagtttac 660
tctgaagttt tagtaatgac tgggtggttac tttattcaag acgaagtagg cgaatttagc 720
tcaaatacaa ataattacac aacgccataa tttattcaag acgaagtagg cgaatttagc 780
agctactttg caagagaatt taatgatgag atattaatcg gaagtaataa tggatttgca 840
gaattttaca aaaataaaga aggaattttt gccctacggg caccctcaaa atctgtagaa 900
cctggagctt ataacggatc tcagctaagc aaaacaggcc ttaatgatat tattcctgta 960
tcaaacaaca cgatttacat attaactcag ggcaagggtt tgtggaaatt ggaaaacaga 978
aaattaacta aagaataa

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<210> 317

<211> 217

<212> PRT

<213> Homo sapiens

<400> 317

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Met Gln Ser Gly Leu Lys Ile Lys Leu Ile Leu Phe Phe Cys Cys Phe
  1              5              10              15

Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu Leu Asp Tyr
  20              25              30

Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr Ser Met Ser
  35              40              45

Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val Phe Lys Leu
  50              55              60

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Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val Ile Asn Asn  
 65 70 75 80  
 Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys Asp Ile Leu  
 85 90 95  
 Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr Phe Glu Asp  
 100 105 110  
 Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg Val Tyr Asn  
 115 120 125  
 Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp Leu Asp Asp  
 130 135 140  
 Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met Leu Asn Lys  
 145 150 155 160  
 Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys Asp Lys Leu  
 165 170 175  
 His Pro Val Ser Ser Val Val Arg Ile Asp Ser Ile Asp Ile Leu Glu  
 180 185 190  
 Ile Asp Lys Ala Phe Asp Asn Tyr Ile Ser Phe Tyr Tyr Val Glu Lys  
 195 200 205  
 Asn Ser Asn Leu Phe Phe Lys Val Gly  
 210 215

<210> 318  
 <211> 204  
 <212> PRT  
 <213> Homo sapiens

<400> 318  
 Cys Cys Phe Ala Cys Ser Cys Asp Ile Asn Tyr Pro Glu Ile Lys Glu  
 1 5 10 15  
 Leu Asp Tyr Lys Ile Asn Tyr Tyr Phe Thr Glu Asn Arg Leu Asp Tyr  
 20 25 30  
 Ser Met Ser Phe Asp Phe Ala Ile Lys Val Ile Asn Ser Lys Asp Val  
 35 40 45  
 Phe Lys Leu Ser Ile Glu Asn Lys Asn Thr Asn Glu Phe Ile Gln Val  
 50 55 60  
 Ile Asn Asn Asn Tyr Ser Ser Phe Phe Ile Asp Ser Ser Leu Gly Lys  
 65 70 75 80  
 Asp Ile Leu Tyr Cys Lys Asp Leu Arg Phe Asn Phe Phe Asp Lys Thr  
 85 90 95  
 Phe Glu Asp Phe Thr Ser Cys Val Arg Leu Phe Asp Lys Gly Met Arg  
 100 105 110  
 Val Tyr Asn Arg Glu Leu Val Ile Ser Leu Gly Met Ser Lys Tyr Asp  
 115 120 125

Leu Asp Asp Val His Asn Tyr Val Tyr Lys Ser Lys Asp Met Glu Met  
 130 135 140  
 Leu Asn Lys Leu Ser Asn Ser Lys Val Phe Phe Val Lys Thr Tyr Lys  
 145 150 155 160  
 Asp Lys Leu His Pro Val Ser Ser Val Val Arg Ile Asp Ser Ile Asp  
 165 170 175  
 Ile Leu Glu Ile Asp Lys Ala Phe Asp Asn Tyr Ile Ser Phe Tyr Tyr  
 180 185 190  
 Val Glu Lys Asn Ser Asn Leu Phe Phe Lys Val Gly  
 195 200

<210> 319  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

<400> 319  
 atgcagagcg gattaaaaat taaattaata ttgttttttt gttgttttgc ttgttcttgc 60  
 gacataaatt atccggagat aaaagagctt gattataaga taaattatta ttttactgaa 120  
 aatcgcttag attactctat gagttttgat tttgcaatta aagttataaa ttcaaaagat 180  
 gtttttaaat tatcaataga gaataagaac actaatgagt ttattcaagt gattaataat 240  
 aattatagct ctttttttat tgattctagc cttggaaaagg atattctata ttgtaaggat 300  
 ttgagggtta atttttttga taaaactttt gaagatttta cctcatgtgt tcgtcttttt 360  
 gataagggca tgagagtata caatagagag cttgttattt ctttgggtat gtcaaaatat 420  
 gatttagatg atgttcacaa ttatgtatat aagtctaaag atatggaaat gttaaacaag 480  
 ttaagcaatt ccaaagtatt ttttgttaaa acctataaag acaaactaca tccggtctct 540  
 tcagttgtta gaattgattc aatagatatt ctagagattg ataaagcatt tgataattac 600  
 ataagttttt attatgtcga aaaaaattca aatctttttt ttaaagttag ctga 654

<210> 320  
 <211> 615  
 <212> DNA  
 <213> Homo sapiens

<400> 320  
 tggtgttttg cttgttcttg cgacataaat tatccggaga taaaagagct tgattataag 60  
 ataaattatt attttactga aaatcgctta gattactcta tgagttttga ttttgcaatt 120  
 aaagttataa attcaaaaga tgttttttaa ttatcaatag agaataagaa cactaatgag 180  
 tttattcaag tgattaataa taattatagc tcttttttta ttgattctag cttggaaaag 240  
 gatattctat attgtaagga tttgagggtt aatttttttg ataaaacttt tgaagatttt 300  
 acctcatgtg ttcgtctttt tgataagggc atgagagtat acaatagaga gcttggtatt 360  
 tctttgggta tgtcaaaata tgatttagat gatgttcaca attatgtata taagtctaaa 420  
 gatattgaaa tgtaaaca gtttaagcaat tccaaagtat tttttgttaa aacttataaa 480  
 gacaaactac atccggtctc ttcagttggt agaattgatt caatagatat tctagagatt 540  
 gataaagcat ttgataatta cataagtttt tattatgtcg aaaaaaattc aaatcttttt 600  
 tttaaagttg gctga 615

<210> 321  
 <211> 1119  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (573)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (627)  
 <223> Xaa equals any of the naturally occurring L-amino acids  
  
 <220>  
 <221> SITE  
 <222> (735)  
 <223> Xaa equals any of the naturally occurring L-amino acids  
  
 <400> 321  
 Met Asn Lys Lys His Thr Asn Phe Ser Val Leu Leu Leu Leu Ile Phe  
 1 5 10 15  
 Leu Leu Ile Leu Ser Phe Gly Gly Phe Gly Tyr Tyr Ile Tyr Gln Ser  
 20 25 30  
 Lys Leu Asn Asp Lys Asn Arg Glu Ile Met Leu Asn Glu Val Lys Asn  
 35 40 45  
 Ser Val Ile Asp Arg Asn Tyr Lys Lys Ala Tyr Ser Val Ala Lys Leu  
 50 55 60  
 Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
 65 70 75 80  
 Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
 85 90 95  
 Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
 100 105 110  
 Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
 115 120 125  
 Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
 130 135 140  
 Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
 145 150 155 160  
 Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
 165 170 175  
 Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
 180 185 190  
 Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
 195 200 205  
 Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
 210 215 220  
 Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
 225 230 235 240  
 Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Asn Thr Thr Ser Leu  
 245 250 255



Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
 260 265 270  
 Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
 275 280 285  
 Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val  
 290 295 300  
 Thr Leu Gly Lys Asn Arg Leu Lys Glu Leu Ile Lys Lys Gly Leu Ser  
 305 310 315 320  
 Asn Lys Phe Gln Lys Val Asn Glu Leu Ile Glu Asn Ser Lys Asn Lys  
 325 330 335  
 Glu Ala Ser Asn Leu Leu Leu Thr Leu Ile Lys Lys Asp Ile Glu Pro  
 340 345 350  
 Asn Leu Ile Asn Ile Pro Lys Asp Pro Tyr Lys Lys Glu Ile Phe Gln  
 355 360 365  
 Leu Asp Lys Glu Asp Lys Lys Pro Gln Tyr Leu Glu Asp Leu Lys Ser  
 370 375 380  
 Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg  
 385 390 395 400  
 Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn  
 405 410 415  
 Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His  
 420 425 430  
 Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu  
 435 440 445  
 Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe  
 450 455 460  
 Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln  
 465 470 475 480  
 Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser  
 485 490 495  
 Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile  
 500 505 510  
 Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala  
 515 520 525  
 Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu  
 530 535 540  
 Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys  
 545 550 555 560  
 Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys Asn Asn  
 565 570 575

Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile  
 580 585 590  
 Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile  
 595 600 605  
 Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn  
 610 615 620  
 Glu Phe Xaa Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu  
 625 630 635 640  
 Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val  
 645 650 655  
 His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln  
 660 665 670  
 Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala  
 675 680 685  
 Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu  
 690 695 700  
 Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn  
 705 710 715 720  
 Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys  
 725 730 735  
 Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Tyr  
 740 745 750  
 Glu Asn Asn Gly Asp Leu Leu Lys Ala Glu Asn Ala Tyr Glu Lys Ile  
 755 760 765  
 Ile Lys Leu Thr Asn Thr Gln Glu Asp His Tyr Lys Leu Gly Ile Ile  
 770 775 780  
 Arg Phe Lys Leu Lys Lys Tyr Glu His Ser Ile Glu Ser Phe Asp Gln  
 785 790 795 800  
 Thr Ile Lys Leu Asp Pro Lys His Lys Lys Ala Leu His Asn Lys Gly  
 805 810 815  
 Ile Ala Leu Met Met Leu Asn Lys Asn Lys Lys Ala Ile Glu Ser Phe  
 820 825 830  
 Glu Lys Ala Ile Gln Ile Asp Lys Asn Tyr Gly Thr Ala Tyr Tyr Gln  
 835 840 845  
 Lys Gly Ile Ala Glu Glu Lys Asn Gly Asp Met Gln Gln Ala Phe Ala  
 850 855 860  
 Ser Phe Lys Asn Ala Tyr Asn Leu Asp Lys Asn Pro Asn Tyr Ala Leu  
 865 870 875 880  
 Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
 885 890 895

Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
                   900                                  905                                  910

Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
                   915                                  920                                  925

Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
                   930                                  935                                  940

Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
                   945                                  950                                  955                                  960

Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
                                   965                                  970                                  975

Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
                                   980                                  985                                  990

Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
                   995                                  1000                                  1005

Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
                   1010                                  1015                                  1020

Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
                   1025                                  1030                                  1035                                  1040

Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
                                   1045                                  1050                                  1055

Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
                                   1060                                  1065                                  1070

Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
                   1075                                  1080                                  1085

Asn Glu Asn Asn Asn Asp Gln Thr Leu Arg Glu Leu Ile Lys Lys Phe  
                   1090                                  1095                                  1100

Pro Asn Tyr Lys Lys Asn Glu Asn Ile Lys Lys Ile Ile Gly Ile  
                   1105                                  1110                                  1115

<210> 322  
 <211> 1087  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (541)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (595)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (703)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 322

Lys Leu Asn Asp Lys Asn Arg Glu Ile Met Leu Asn Glu Val Lys Asn  
1 5 10 15

Ser Val Ile Asp Arg Asn Tyr Lys Lys Ala Tyr Ser Val Ala Lys Leu  
20 25 30

Leu Gln Asp Lys Tyr Pro Gln Asn Glu Asp Ile Ala Met Leu Thr Asn  
35 40 45

Thr Leu Ala Glu Ile Ala Asn Ser Ser Pro Phe Glu Ser Lys Asp Leu  
50 55 60

Gln Arg Asp Ser Ala Asn Gln Ile Leu Asp Lys Ile Lys Gly Gln Asp  
65 70 75 80

Asn Thr Lys Thr Asn Val Asn Glu Asn Phe Asp Ile Ala Phe Asn Asn  
85 90 95

Arg Tyr Ile Lys Asp Ser Thr Ile Thr Glu Asn Tyr Ser Asp Arg Asn  
100 105 110

Asp Asp Val Gly Ile Glu Asp Glu Asp Ile Ser Glu Phe Lys Lys Ser  
115 120 125

Lys Ile Pro Glu Lys Ile Lys Pro Asn Thr Asn Pro Lys Glu Glu Asp  
130 135 140

Gln Ile Ile Gln Ser Pro Asn Pro Lys Leu Ser Val Asn Asp Gln Lys  
145 150 155 160

Asn Leu Phe Asn Leu Glu Lys Leu Lys Lys Asn Leu Ser Gly Lys Ser  
165 170 175

Asn Ser Glu Asn Ile Leu Asn Asp Ser Gln Lys Ile Glu Asn Asp Lys  
180 185 190

Gln Asn Thr Asn Leu Ser Lys Glu Lys Asn Ser Glu Asn Ile Leu Lys  
195 200 205

Thr Pro Asp Asn Ser Lys Tyr Ser Asn Asn Asn Asn Thr Thr Ser Leu  
210 215 220

Lys Lys Ile Ser Ser Asn Ser Gln Lys Glu Ser Glu Leu Ser Pro Pro  
225 230 235 240

Ser Gln Thr Ile Ile Gly Lys Ile Tyr Arg Pro Tyr Ser Tyr Leu Ile  
245 250 255

Lys Lys Glu Leu Tyr Glu Ile Leu Asp Asp Ile Asn Thr Gly Arg Val  
260 265 270

Thr Leu Gly Lys Asn Arg Leu Lys Glu Leu Ile Lys Lys Gly Leu Ser  
275 280 285

Asn Lys Phe Gln Lys Val Asn Glu Leu Ile Glu Asn Ser Lys Asn Lys  
290 295 300

Glu Ala Ser Asn Leu Leu Leu Thr Leu Ile Lys Lys Asp Ile Glu Pro  
 305 310 315 320  
 Asn Leu Ile Asn Ile Pro Lys Asp Pro Tyr Lys Lys Glu Ile Phe Gln  
 325 330 335  
 Leu Asp Lys Glu Asp Lys Lys Pro Gln Tyr Leu Glu Asp Leu Lys Ser  
 340 345 350  
 Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg  
 355 360 365  
 Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn  
 370 375 380  
 Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His  
 385 390 395 400  
 Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu  
 405 410 415  
 Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe  
 420 425 430  
 Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln  
 435 440 445  
 Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser  
 450 455 460  
 Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile  
 465 470 475 480  
 Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala Gln Ala  
 485 490 495  
 Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu  
 500 505 510  
 Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys  
 515 520 525  
 Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys Asn Asn  
 530 535 540  
 Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile  
 545 550 555 560  
 Gln His Leu Glu Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile  
 565 570 575  
 Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn  
 580 585 590  
 Glu Phe Xaa Lys Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu  
 595 600 605  
 Ala Gln Ala Asn Lys Ile Gln His Leu Glu Asp Leu Lys Ser Lys Val  
 610 615 620

His Ser Ile Lys Pro Ile Asp Leu Glu Asn Thr Lys Ser Arg Gln Gln  
 625 630 635 640  
 Ala Ile Lys Asp Leu Asn Glu Phe Leu Lys Asn Asn Pro Asn Asp Ala  
 645 650 655  
 Gln Ala Ser Lys Thr Leu Ala Gln Ala Asn Lys Ile Gln His Leu Glu  
 660 665 670  
 Asp Leu Lys Ser Lys Val His Ser Ile Lys Pro Ile Asp Leu Glu Asn  
 675 680 685  
 Thr Lys Ser Arg Gln Gln Ala Ile Lys Asp Leu Asn Glu Phe Xaa Lys  
 690 695 700  
 Asn Asn Pro Asn Asp Ala Gln Ala Ser Lys Thr Leu Ala Gln Ala Tyr  
 705 710 715 720  
 Glu Asn Asn Gly Asp Leu Leu Lys Ala Glu Asn Ala Tyr Glu Lys Ile  
 725 730 735  
 Ile Lys Leu Thr Asn Thr Gln Glu Asp His Tyr Lys Leu Gly Ile Ile  
 740 745 750  
 Arg Phe Lys Leu Lys Lys Tyr Glu His Ser Ile Glu Ser Phe Asp Gln  
 755 760 765  
 Thr Ile Lys Leu Asp Pro Lys His Lys Lys Ala Leu His Asn Lys Gly  
 770 775 780  
 Ile Ala Leu Met Met Leu Asn Lys Asn Lys Lys Ala Ile Glu Ser Phe  
 785 790 795 800  
 Glu Lys Ala Ile Gln Ile Asp Lys Asn Tyr Gly Thr Ala Tyr Tyr Gln  
 805 810 815  
 Lys Gly Ile Ala Glu Glu Lys Asn Gly Asp Met Gln Gln Ala Phe Ala  
 820 825 830  
 Ser Phe Lys Asn Ala Tyr Asn Leu Asp Lys Asn Pro Asn Tyr Ala Leu  
 835 840 845  
 Lys Ala Gly Ile Val Ser Asn Asn Leu Gly Asn Phe Lys Gln Ser Glu  
 850 855 860  
 Glu Tyr Leu Asn Phe Phe Asn Ala Asn Ala Lys Lys Pro Asn Glu Ile  
 865 870 875 880  
 Ala Ile Tyr Asn Leu Ser Ile Ala Lys Phe Glu Asn Asn Lys Leu Glu  
 885 890 895  
 Glu Ser Leu Glu Thr Ile Asn Lys Ala Ile Asp Leu Asn Pro Glu Lys  
 900 905 910  
 Ser Glu Tyr Leu Tyr Leu Lys Ala Ser Ile Asn Leu Lys Lys Glu Asn  
 915 920 925  
 Tyr Gln Asn Ala Ile Ser Leu Tyr Ser Leu Val Ile Glu Lys Asn Pro  
 930 935 940

Glu Asn Thr Ser Ala Tyr Ile Asn Leu Ala Lys Ala Tyr Glu Lys Ser  
 945 950 955 960  
 Gly Asn Lys Ser Gln Ala Ile Ser Thr Leu Glu Lys Ile Ile Asn Lys  
 965 970 975  
 Asn Asn Lys Leu Ala Leu Asn Asn Leu Gly Ile Leu Tyr Lys Lys Glu  
 980 985 990  
 Lys Asn Tyr Gln Lys Ala Ile Glu Ile Phe Glu Lys Ala Ile Ile Asn  
 995 1000 1005  
 Ser Asp Ile Glu Ala Lys Tyr Asn Leu Ala Thr Thr Leu Ile Glu Ile  
 1010 1015 1020  
 Asn Asp Asn Thr Arg Ala Lys Asp Leu Leu Arg Glu Tyr Thr Lys Leu  
 1025 1030 1035 1040  
 Lys Pro Asn Asn Pro Glu Ala Leu His Ala Leu Gly Ile Ile Glu Tyr  
 1045 1050 1055  
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Asp Tyr Ile Leu Tyr Tyr Glu Leu Gly Asn Ile Met Phe Asn Arg Gly  
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Glu Gly Tyr Tyr Pro Leu Ala Ile Lys Tyr Tyr Ser Asn Ser Ile Lys

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Tyr Leu Arg Asn Glu Lys Ile Asn Leu Glu Gln Leu Asp Lys Ser Leu		
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Lys Gly Arg Thr Glu His Ile Val Tyr Ala Lys Glu Asp Lys Asn Gln		
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Ile Leu Lys Asp Ser Phe Lys Asp Asn Leu Glu Thr Asn Ser Leu Ile		
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Pro Lys Val Gln Leu Gly Tyr Tyr Phe Leu Ser Ile Ala Tyr Arg Glu		
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Val Gly Gly Glu Ile Asp Tyr Ile Leu Tyr Tyr Glu Leu Gly Asn Ile		
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Ser Asn Ser Ile Lys Ser Arg Pro Asn Tyr Asp Ser Ala Leu Leu Asn		
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Glu Tyr Gln Lys Ala Trp Asp Ser Tyr Thr Met Ala Ile His Asp Tyr		
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Ser Gln Phe Ile Thr Leu Arg Ser Lys Thr Glu Lys Lys Asp Ser Ile		

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35 40 45  
Ile Gln Arg Thr Glu Asn Leu Ala Gly Leu Lys Tyr Lys Ile Pro Leu  
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Glu Pro Gln Arg Ile Pro Thr Gly Gly Glu Glu Lys Gln Leu Ile Trp  
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Thr Thr Ile Lys Thr Met Ser Arg Ala Tyr Val Arg Ile Asp Ala Ala  
115 120 125  
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130 135 140  
Ile Ile Arg Ser Ser Asn Asp Pro Ile Gln Arg Leu Ser Asn Gly Ile  
145 150 155 160  
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305

310

315

320

Lys Arg Asn

&lt;210&gt; 330

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&lt;213&gt; Homo sapiens

&lt;400&gt; 330

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Tyr Lys Ile Pro Leu Ile Glu Asn Val Gln Ile Phe Pro Lys Ile Ile  
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Lys Gln Leu Ile Trp Ile Asp Thr Thr Ala Arg Trp Lys Ile Ala Asp  
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Ile Asn Lys Phe Tyr Thr Thr Ile Lys Thr Met Ser Arg Ala Tyr Val  
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Arg Ile Asp Ala Ala Ile Glu Pro Ala Val Arg Gly Val Ile Ala Lys  
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Tyr Pro Leu Leu Glu Ile Ile Arg Ser Ser Asn Asp Pro Ile Gln Arg  
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Leu Ile Arg Lys Val Thr Tyr Asp Pro Ser Leu Ile Glu Ser Val Asn  
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Asn Arg Met Ile Ser Glu Arg Gln Gln Ile Ala Glu Glu Gln Arg Ser  
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Lys Leu Lys Ile Leu Ser Glu Ala Lys Ala Thr Ala Ala Lys Ile Lys  
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Lys Asn Ile Glu Phe Tyr Lys Phe Trp Gln Ala Leu Glu Ser Tyr Lys

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ggagggggaag aaaagcaatt aatatggatt gatacaactg ctagatggaa aattgcagac 240
ataaataaat tttacacaac aataaaaaca atgagtagag cttacgttag aattgatgca 300
gcaattgaac ctgctgttag gggggttatt gcaaaatacc ctttgcttga aattataaga 360
agctcaaacy atcctattca acgtttgtct aatggaatac tcaccccaaca agaaacaaaa 420
attaacggta tttataaaat aacaaaagga cgaaagataa tcgaaaaaga aataattcgt 480
atagcaaaaca acaataccaa agatattgga attgaaattg tagacgtact aataagaaaa 540
gttacttatg acccaagcct tattgaatct gtaacaaca gaatgatctc agaaagacaa 600
caaatcgagc aagaacaaag aagcatagga ttagctgaaa aaacagaaat tcttggaagc 660
atagaaaaag aaaaactgaa aatattaagt gaagcaaaaag ccactgctgc aaaaataaaa 720
gccgaagggg atagagaagc cgcaaaaatt tattcaaag catatggcaa aaattattgaa 780
ttttacaaat tctggcaggc attagaaagc tataaagcag tattaaaaga taaaagaaaa 840
attttctcaa cagacatgga tttctttcaa tatcttcaca aaagaaattg a 891

<210> 333
<211> 246
<212> PRT
<213> Homo sapiens

<400> 333

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Met Ser Gly Pro Lys Lys Leu Ala Ile Ile Ala Leu Leu Val Ile Ser  
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 Ile Gln Gly Cys Lys Glu Ser Ser Ile Ile Glu Lys Gln Phe Asn Tyr  
 20 25 30  
 Ala Ile Ile Phe Ser Asp Ala Thr Glu Tyr Phe Phe Glu Ile Gln Thr  
 35 40 45  
 Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe Ile Asn Asp Lys Asn Leu  
 50 55 60  
 Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr Lys Lys Ile Leu Leu Thr  
 65 70 75 80  
 His Lys Ser Asn Asn Glu Ile Leu Asn Asn Glu Ile Leu Lys Glu Lys  
 85 90 95  
 Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser Leu Lys Lys Ser Ile Asp  
 100 105 110  
 Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu Gln Lys Thr Leu Leu Phe  
 115 120 125  
 Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu Glu Tyr Leu Glu Lys Lys  
 130 135 140  
 Gly Lys Glu Lys Asn Val Asn Ile Thr Leu Ile Asn Glu Lys Asn Ile  
 145 150 155 160  
 Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln Ile Lys Thr Ile Ile Leu  
 165 170 175  
 Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu Lys Lys Ile Leu Asn Ser  
 180 185 190  
 Pro Phe Ser Lys Asn Ile Lys Phe Val Leu Ile Gly Asn Thr Arg Lys  
 195 200 205  
 Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile Ile Thr Leu Lys Glu Pro  
 210 215 220  
 Asp Leu Ile Lys Ile Ala Lys Asp Val Glu Lys Asp Phe Gln Tyr Glu  
 225 230 235 240  
 Phe Asn Ile Tyr Lys Gln  
 245

<210> 334  
 <211> 220  
 <212> PRT  
 <213> Homo sapiens

<400> 334  
 Glu Lys Gln Phe Asn Tyr Ala Ile Ile Phe Ser Asp Ala Thr Glu Tyr  
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 Phe Phe Glu Ile Gln Thr Thr Pro Phe Ile Lys Asn Glu Ile Leu Phe  
 20 25 30

Ile Asn Asp Lys Asn Leu Glu Ile Ile Lys Asp Lys Leu Lys Thr Thr  
 35 40 45  
 Lys Lys Ile Leu Leu Thr His Lys Ser Asn Asn Glu Ile Leu Asn Asn  
 50 55 60  
 Glu Ile Leu Lys Glu Lys Ile Phe Tyr Leu Ser Lys Ile Lys Phe Ser  
 65 70 75 80  
 Leu Lys Lys Ser Ile Asp Phe Leu Leu Asn Glu Lys Ser Ile Asp Leu  
 85 90 95  
 Gln Lys Thr Leu Leu Phe Arg Asp Lys Ser Leu Asn Asn Glu Asp Leu  
 100 105 110  
 Glu Tyr Leu Glu Lys Lys Gly Lys Glu Lys Asn Val Asn Ile Thr Leu  
 115 120 125  
 Ile Asn Glu Lys Asn Ile Ser Tyr Ile Gln Thr Phe Ile Thr Ser Gln  
 130 135 140  
 Ile Lys Thr Ile Ile Leu Phe Ser Leu Arg Asp Asn Asn Ile Ile Leu  
 145 150 155 160  
 Lys Lys Ile Leu Asn Ser Pro Phe Ser Lys Asn Ile Lys Phe Val Leu  
 165 170 175  
 Ile Gly Asn Thr Arg Lys Asp Leu Lys Ile Ile Lys Leu Lys Tyr Ile  
 180 185 190  
 Ile Thr Leu Lys Glu Pro Asp Leu Ile Lys Ile Ala Lys Asp Val Glu  
 195 200 205  
 Lys Asp Phe Gln Tyr Glu Phe Asn Ile Tyr Lys Gln  
 210 215 220

<210> 335  
 <211> 741  
 <212> DNA  
 <213> Homo sapiens

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 aaagaatctt ctattattga aaaacaattt aattatgcaa taattttttc agatgcaact 120  
 gaattttttt ttgaaattca aacaactcca ttcataaaaa acgaaatact atttataaat 180  
 gacaaaaatt tagaaattat aaaagacaag cttaaaacaa caaaaaaaat actattaact 240  
 cataaatcaa ataatgaaat tctaaataac gaaattctaa aagagaaaat tttttatcta 300  
 tcaaaaataa aatttttctt aaaaaaatct attgactttc tgcttaacga aaaatcaata 360  
 gatttgcaaa aaacattact atttagagac aaatctctaa ataacgaaga cttgaatac 420  
 ttggaaaaaa aaggcaaaga aaaaaatgtc aatattactc taataaacga aaaaaacata 480  
 tcctatatct aaacattcat tacttctcaa ataaaaacaa taatattatt ctctttaaga 540  
 gataataata ttatttttaa aaagatacta aattcgcttt tttctaaaaa tataaaattt 600  
 gtattaattg gcaatacaag aaaagactta aaaattatta agctaaaata tataatcacc 660  
 cttaaagagc ctgatttgat aaaaatagca aaagatgttg aaaaagattt tcaatatgaa 720  
 ttttaacattt ataaacaata a 741

<210> 336  
 <211> 663  
 <212> DNA  
 <213> Homo sapiens



<400> 336  
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caaacaactc cattcataaa aaacgaaata ctatttataa atgacaaaaa tttagaaatt 120  
ataaaaagaca agcttaaaac aacaaaaaaa atactattaa ctcataaatc aaataatgaa 180  
attctaaata acgaaattct aaaagagaaa attttttatc tatcaaaaat aaaattttct 240  
ctaaaaaaat ctattgactt tctgcttaac gaaaaatcaa tagatttgca aaaaacatta 300  
ctatttagag acaaatctct aaataacgaa gaccttgaat acttggaata aaaaggcaaa 360  
gaaaaaaatg tcaatattac tctaataaac gaaaaaaaca tatcctatat tcaaacattc 420  
attacttctc aaataaaaaac aataatatta ttctctttaa gagataataa tattatttta 480  
aaaaagatac taaattcgcc tttttctaaa aatataaaat ttgtattaat tggcaatata 540  
agaaaagact taaaaattat taagctaaaa tatataatca cccttaaaga gcctgatttg 600  
ataaaaatag caaaagatgt tgaaaaagat tttcaatatg aatttaacat ttataaacia 660  
taa 663

<210> 337  
<211> 127  
<212> PRT  
<213> Homo sapiens

<400> 337  
Met Ile Asn Phe Ser Lys Ser Phe Phe Tyr Pro Leu Pro Ile Gly Lys  
1 5 10 15  
Ile Phe Val Leu Ser Gly Asp Met Gly Ser Gly Lys Thr Ser Phe Leu  
20 25 30  
Lys Gly Leu Ala Leu Asn Leu Gly Ile Ser Tyr Phe Thr Ser Pro Thr  
35 40 45  
Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn Phe Lys Phe Tyr His  
50 55 60  
Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu Phe Glu Leu Val Gly  
65 70 75 80  
Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile Ile Ala Ile Glu Trp  
85 90 95  
Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp Arg Leu Phe Ser Leu  
100 105 110  
Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val Glu Leu Asn Gly  
115 120 125

<210> 338  
<211> 100  
<212> PRT  
<213> Homo sapiens

<400> 338  
Lys Thr Ser Phe Leu Lys Gly Leu Ala Leu Asn Leu Gly Ile Ser Tyr  
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Phe Thr Ser Pro Thr Tyr Asn Ile Val Asn Val Tyr Asp Phe Ile Asn  
20 25 30  
Phe Lys Phe Tyr His Ile Asp Leu Tyr Arg Val Ser Ser Leu Glu Glu  
35 40 45

Phe Glu Leu Val Gly Gly Leu Glu Ile Leu Met Asp Leu Asp Ser Ile  
 50 55 60  
 Ile Ala Ile Glu Trp Pro Gln Ile Ala Leu Ser Ile Val Pro Lys Asp  
 65 70 75 80  
 Arg Leu Phe Ser Leu Thr Phe Lys Ile Val Gly Ser Gly Arg Val Val  
 85 90 95  
 Glu Leu Asn Gly  
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<210> 339  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<400> 339  
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 agtggtgaca tgggatctgg aaaaactagt tttttaaaagg gacttgccct taaccttgga 120  
 atttcttatt ttacaagtcc aacttataac attgttaatg tttatgattt tataaatttt 180  
 aaattttatc atattgattt atatcgggtg tcttctttgg aagaatttga gcttggtggg 240  
 ggattggaaa tacttatgga tcttgactcg attattgcta ttgaatggcc acaaattgct 300  
 ttgagcattg ttccaaaaga tagattattt tctttaactt ttaaaatagt aggttcaggc 360  
 agggttgtag aacttaatgg ttaa 384

<210> 340  
 <211> 303  
 <212> DNA  
 <213> Homo sapiens

<400> 340  
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 acttataaca ttgttaatgt ttatgatttt ataaatttta aattttatca tattgattta 120  
 tatcgggtgt cttctttgga agaatttgag cttggtgggg gattggaaat acttatggat 180  
 cttgactcga ttattgctat tgaatggcca caaattgctt tgagcattgt tccaaaagat 240  
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 taa 303

<210> 341  
 <211> 389  
 <212> PRT  
 <213> Homo sapiens

<400> 341  
 Met Asn Thr Lys Ala Thr Thr Pro Leu Leu Leu Leu Phe Leu Ile Gln  
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 Ser Leu Ala Phe Ser Ser Glu Ile Phe Glu Phe Lys Tyr Ile Lys Gly  
 20 25 30  
 Ser Lys Phe Arg Leu Glu Gly Thr Asp Asn Gln Lys Ile Tyr Phe Asn  
 35 40 45  
 Gly His Tyr Asn Ser Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu  
 50 55 60  
 Ile Lys Asp Ile Lys Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg  
 65 70 75 80

Ile Leu Lys Arg Glu Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu  
 85 90 95  
 Phe Glu Glu Ile Phe Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly  
 100 105 110  
 Ala Asn Gln Lys Arg Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys  
 115 120 125  
 Thr Pro Ile Lys Ile Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr  
 130 135 140  
 Ile Glu Ala Ser Lys Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys  
 145 150 155 160  
 Phe Asn Val Asn Tyr Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys  
 165 170 175  
 His Tyr His Ile Ile Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys  
 180 185 190  
 Asn Ile Ser Phe Tyr Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn  
 195 200 205  
 Glu Ile Gly Asn Thr Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile  
 210 215 220  
 Asn Gln Asn Asn Asn Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly  
 225 230 235 240  
 Arg Ile Val Ser Ile Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu  
 245 250 255  
 Val Glu Asn Tyr Ile Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu  
 260 265 270  
 Lys Asn Asn Lys Gly Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro  
 275 280 285  
 Asn Ser Phe Gln Ile Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile  
 290 295 300  
 Ala Lys Leu Leu Glu Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly  
 305 310 315 320  
 His Thr Glu Gln Phe Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu  
 325 330 335  
 Lys Arg Ala Arg Ala Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys  
 340 345 350  
 Asp Lys Asp Gln Ile Leu Phe Lys Gly Trp Gly Ser Gln Lys Pro Lys  
 355 360 365  
 Tyr Pro Lys Ser Ser Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile  
 370 375 380  
 Thr Ile Leu Asn Asn  
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<210> 342  
 <211> 368  
 <212> PRT  
 <213> Homo sapiens

<400> 342

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Ser Glu Ile Phe Glu Phe Lys Tyr Ile Lys Gly Ser Lys Phe Arg Leu
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Glu Gly Thr Asp Asn Gln Lys Ile Tyr Phe Asn Gly His Tyr Asn Ser
      20             25             30

Ser Ser Asn Thr Asn Ile Gln Ile Ser Ser Glu Ile Lys Asp Ile Lys
      35             40             45

Glu Asn Phe Ala Ser Ile Lys Ala Phe Phe Arg Ile Leu Lys Arg Glu
      50             55             60

Asn Ile Asn Glu Pro Tyr Leu Leu Asn Glu Glu Phe Glu Glu Ile Phe
      65             70             75             80

Ser Val Asn Lys Gln Gly Glu Tyr Thr Ile Gly Ala Asn Gln Lys Arg
      85             90             95

Pro Ser Val Arg Gly Ile Pro Arg Phe Pro Lys Thr Pro Ile Lys Ile
      100            105            110

Asn Glu Lys Trp Ser Tyr Leu Ala Glu Glu Tyr Ile Glu Ala Ser Lys
      115            120            125

Ile Asp Lys Ser Ile Lys Asp Phe Val Val Lys Phe Asn Val Asn Tyr
      130            135            140

Glu Tyr Lys Gly Lys Glu Glu His Asn Gly Lys His Tyr His Ile Ile
      145            150            155            160

Leu Ser Asn Tyr Glu Ser Gln Tyr Asn Val Lys Asn Ile Ser Phe Tyr
      165            170            175

Gln Lys Val Asp Gln Lys Ile Tyr Phe Asp Asn Glu Ile Gly Asn Thr
      180            185            190

Tyr Lys Tyr Ser Asp Lys Tyr Ile Phe Glu Ile Asn Gln Asn Asn Asn
      195            200            205

Gln His Phe Lys Met Ile Gly Asn Ser Leu Gly Arg Ile Val Ser Ile
      210            215            220

Glu Leu Pro Asn Asp Asn Leu Ile Glu Thr Glu Val Glu Asn Tyr Ile
      225            230            235            240

Arg Glu Lys Lys Ile Lys Ala Ile Glu Val Glu Lys Asn Asn Lys Gly
      245            250            255

Ile Asn Leu Ser Phe Asp Ile Glu Phe Tyr Pro Asn Ser Phe Gln Ile
      260            265            270

Leu Gln Lys Glu Tyr Lys Lys Ile Asp Leu Ile Ala Lys Leu Leu Glu
      275            280            285

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Lys Phe Lys Lys Asn Asn Ile Leu Ile Glu Gly His Thr Glu Gln Phe  
 290 295 300

Gly Leu Glu Glu Glu Met His Glu Leu Ser Glu Lys Arg Ala Arg Ala  
 305 310 315 320

Ile Gly Asn Tyr Leu Ile Lys Met Lys Val Lys Asp Lys Asp Gln Ile  
 325 330 335

Leu Phe Lys Gly Trp Gly Ser Gln Lys Pro Lys Tyr Pro Lys Ser Ser  
 340 345 350

Pro Leu Lys Ala Lys Asn Arg Arg Val Glu Ile Thr Ile Leu Asn Asn  
 355 360 365

<210> 343

<211> 1170

<212> DNA

<213> Homo sapiens

<400> 343

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gataatcaaa aaatatatatt caatggccat tataattcaa gctctaatac caatattcaa 180
atttcaagtg aaataaaaga cataaaagaa aactttgcaa gcattaaagc tttttttaga 240
atcttaaaaa gagaaaatat taatgaacct tacctattaa atgaagagtt tgaagaaatc 300
ttcagcgtaa ataagcaagg agaatatata ataggagcaa atcaaaaaag accttctgtt 360
agaggatttc caagattccc aaaaacacca atcaaaataa atgaaaaatg gtcatatctt 420
gcagaagaat atatagaagc gtcaaaaata gacaaaagta taaaagattt cgttgtaaaa 480
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atatttgaaa taaatcagaa caacaaccaa cattttaaaa tgattggaaa ctctcttggc 720
agaatagttt caattgagct tccaaatgat aatcttattg aaactgaggt tgaaaattac 780
atccgagaaa aaaaaataaa agctattgaa gttgaaaaaa acaataaagg tattaatata 840
agcttttgaca ttgaatttta tctaactca tttcaaatat tacaataaga atataaaaaa 900
attgacctta tagctaaact tcttgaaaaa tttaaaaaaa ataacatact aatagaagga 960
catactgagc aatttggtt ggaagaagag atgcacgagc tatctgaaaa aagagctcgt 1020
gcaattggaa attatttaaa aaaaatgaaa gtaaaagaca aagaccaaact actattttaa 1080
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<210> 344

<211> 1107

<212> DNA

<213> Homo sapiens

<400> 344

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tcaagtgaat taaaagacat aaaagaaaac tttgcaagca ttaaagcttt ttttagaatc 180
ttaaaaagag aaaatattaa tgaaccttac ctattaaatg aagagtttga agaaatcttc 240
agcgtaaata agcaaggaga atatacaata ggagcaaatc aaaaaagacc ttctgttaga 300
ggtattccaa gattcccaaa aacaccaatc aaaataaatg aaaaatggtc atatcttgca 360
gaagaatata tagaagcgtc aaaaatagac aaaagtataa aagatttcgt tgtaaaattt 420
aatgtttaact acgaatataa aggcaaagaa gagcacaatg gcaagcatta ccacataatt 480
ctttcgaatt atgaatcaca atacaatgta aaaaacatct ctttctatca aaaagtagac 540
caaaaaattt attttgataa tgaaattggc aatacatata aatacagcga taaatatata 600
tttgaaataa atcagaacaa caaccaacat tttaaaatga ttggaaactc tcttggcaga 660
atagtttcaa ttgagcttcc aaatgataat cttattgaaa ctgaggttga aaattacatc 720
  
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cgagaaaaaa aaataaaaagc tattgaagtt gaaaaaaaaca ataaaggtat taattttaagc 780  
 tttgacattg aattttatcc taactcattt caaatactac aaaaagaata taaaaaaatt 840  
 gaccttatag ctaaactttct tgaaaaattt aaaaaaaaata acatactaata agaaggacat 900  
 actgagcaat ttggattgga agaagagatg cacgagctat ctgaaaaaag agctcgtgca 960  
 attggaaatt atttaataaaa aatgaaagta aaagacaaaag accaaataact atttaaagga 1020  
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<210> 345

<211> 612

<212> PRT

<213> Homo sapiens

<400> 345

Met Lys Ile Phe Ile Tyr Trp Val Val Ile Phe Phe Phe Ser Val Phe  
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Lys Val Phe Ser Ile Tyr Ser Leu Thr Asp Glu Glu Phe Phe Lys Lys  
 20 25 30

Tyr Ser Leu Phe Phe Val His Lys Gly Phe Leu Ser Lys Asn Val Asn  
 35 40 45

Gly Lys Ile Thr Lys Val Gln Val Asn Gly Ile Asn Ser Arg Trp Val  
 50 55 60

Tyr Pro Phe Tyr Lys Leu Val Pro Ser Arg Ile Thr Ser Ile Tyr Glu  
 65 70 75 80

Asp Val Tyr Ser Ser Ser Ser Phe Leu Thr Thr Ser Asn Asn Leu Tyr  
 85 90 95

Val Ser Tyr Asp Tyr Ser Lys Asn Phe Arg Lys Leu Val Gly Ile Asp  
 100 105 110

Lys Phe Asn Ser Gly Ala Tyr Ile Thr Ser Ser Ala Phe Ser Gln Gly  
 115 120 125

Asp Tyr Lys Arg Ile Ala Ile Gly Thr Ala Ile His Gly Ile Tyr Leu  
 130 135 140

Ser Val Asn Gly Ala Ile Ser Phe Lys Asn Leu Asn Arg Leu Ile Pro  
 145 150 155 160

Gln Ile Tyr Leu Gly Ala Gly Tyr Tyr Asp Ile Ile Ser Ala Ile Glu  
 165 170 175

Phe Ser Lys Glu Glu Thr Asn Asn Leu Tyr Phe Ser Ser Gly Val Tyr  
 180 185 190

Gly Asp Ile Phe Leu Ile Ser Gln Lys Ser Gly Phe Ile Lys Lys Ile  
 195 200 205

Ser Phe Pro Phe Lys Lys Gln Ile Ile Arg Ile Leu Asp Leu Ser Ser  
 210 215 220

Lys Asn Val Glu Lys Ile Leu Val Arg Thr Tyr Asp Asn His Phe Tyr  
 225 230 235 240

Ser Tyr Ile Asn Gly Gln Trp Val Phe Ile Gly Lys Leu Ser Leu Gln

245										250					255				
Asp	Gln	Asp	Phe	Phe	Glu	Lys	Ser	Gln	Arg	Met	Gln	Leu	Ala	Lys	Asn				
			260					265					270						
Lys	Gly	Ser	Ile	Tyr	Leu	Thr	Ala	Tyr	Thr	Leu	Arg	Asn	Lys	Lys	Ala				
		275					280					285							
Val	Asp	Glu	Arg	Phe	Lys	Phe	Ile	Lys	Asp	Ser	Gly	Met	Asn	Ala	Val				
	290					295					300								
Val	Ile	Asp	Phe	Lys	Asp	Asp	Asn	Gly	Asn	Leu	Thr	Tyr	Ser	Ser	Lys				
305					310					315					320				
Leu	Ser	Leu	Pro	Asn	Lys	Leu	Arg	Ser	Val	Lys	Asn	Phe	Ile	Asp	Val				
				325					330					335					
Pro	Tyr	Ile	Leu	Lys	Lys	Ala	Lys	Glu	Leu	Gly	Ile	Tyr	Val	Ile	Ala				
			340					345					350						
Arg	Cys	Val	Val	Phe	Lys	Asp	Ser	Lys	Leu	Tyr	Tyr	Tyr	Asp	Asn	Phe				
		355					360						365						
Lys	His	Ala	Leu	Trp	Asn	Lys	Lys	Thr	Asn	Lys	Pro	Trp	Ala	His	Leu				
	370					375					380								
Ile	Lys	Lys	Val	Asp	Ser	Ser	Gly	Leu	Val	Lys	Tyr	Val	Gln	Val	Glu				
385					390					395					400				
His	Trp	Val	Asp	Ile	Phe	Ser	Pro	Ala	Thr	Trp	Glu	Tyr	Asn	Ile	Ser				
				405					410					415					
Ile	Ala	Lys	Glu	Ile	Gln	Ser	Phe	Gly	Val	Asp	Glu	Ile	Gln	Phe	Asp				
			420					425					430						
Tyr	Ile	Arg	Phe	Pro	Ser	Asp	Gly	Pro	Val	Ser	Leu	Ala	Ile	Ser	Arg				
		435					440					445							
Met	Asn	Lys	Tyr	Glu	Met	Gln	Pro	Val	Asp	Ala	Leu	Glu	Ser	Phe	Leu				
	450					455					460								
Ile	Met	Ala	Arg	Glu	Gln	Leu	Tyr	Val	Pro	Ile	Ser	Val	Asp	Ile	Tyr				
465					470				475					480					
Gly	Tyr	Asn	Gly	Trp	Phe	Pro	Thr	Asn	Ser	Ile	Gly	Gln	Asn	Ile	Ser				
			485						490					495					
Met	Leu	Ser	Asp	Tyr	Val	Asp	Val	Ile	Ser	Pro	Met	Phe	Tyr	Pro	Ser				
			500					505					510						
His	Tyr	Thr	Asp	Asp	Phe	Leu	Pro	Ser	Asn	Phe	Tyr	Tyr	Thr	Lys	Arg				
		515					520					525							
Ala	Tyr	Arg	Ile	Tyr	Lys	Glu	Gly	Ser	Asp	Arg	Ala	Leu	Ala	Phe	Ser				
		530				535					540								
Leu	Asp	Gly	Val	Val	Ile	Arg	Pro	Tyr	Val	Gln	Ala	Phe	Leu	Leu	Gly				
545					550					555				560					
Lys	Glu	Arg	Leu	Val	Asp	Asp	Glu	Ile	Tyr	Leu	Glu	Tyr	Leu	Lys	Phe				

				565					570					575		
Gln	Leu	Lys	Gly 580	Ile	Lys	Glu	Ser	Phe 585	Gly	Ser	Gly	Phe	Ser	Leu	Trp	
Asn	Ala	Ser 595	Asn	Val	Tyr	Tyr	Met 600	Ile	Lys	Gly	Ser	Leu 605	Lys	Glu	Tyr	
Leu	Asp	Ser	Phe													
	610															
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Ile	Tyr	Ser	Leu	Thr 5	Asp	Glu	Glu	Phe	Phe 10	Lys	Lys	Tyr	Ser	Leu	Phe 15	
	1															
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Gly	Ala	Tyr	Ile 100	Thr	Ser	Ser	Ala	Phe 105	Ser	Gln	Gly	Asp	Tyr 110	Lys	Arg	
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Leu	Ile	Ser	Gln 180	Lys	Ser	Gly	Phe	Ile 185	Lys	Lys	Ile	Ser	Phe 190	Pro	Phe	
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Tyr	Leu	Thr	Ala	Tyr	Thr	Leu	Arg	Asn	Lys	Lys	Ala	Val	Asp	Glu	Arg
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Lys	Lys	Ala	Lys	Glu	Leu	Gly	Ile	Tyr	Val	Ile	Ala	Arg	Cys	Val	Val
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Phe	Lys	Asp	Ser	Lys	Leu	Tyr	Tyr	Tyr	Asp	Asn	Phe	Lys	His	Ala	Leu
			340					345					350		
Trp	Asn	Lys	Lys	Thr	Asn	Lys	Pro	Trp	Ala	His	Leu	Ile	Lys	Lys	Val
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Asp	Ser	Ser	Gly	Leu	Val	Lys	Tyr	Val	Gln	Val	Glu	His	Trp	Val	Asp
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				405					410					415	
Pro	Ser	Asp	Gly	Pro	Val	Ser	Leu	Ala	Ile	Ser	Arg	Met	Asn	Lys	Tyr
			420					425					430		
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465					470					475				480	
Tyr	Val	Asp	Val	Ile	Ser	Pro	Met	Phe	Tyr	Pro	Ser	His	Tyr	Thr	Asp
				485					490					495	
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Tyr	Lys	Glu	Gly	Ser	Asp	Arg	Ala	Leu	Ala	Phe	Ser	Leu	Asp	Gly	Val
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Val	Ile	Arg	Pro	Tyr	Val	Gln	Ala	Phe	Leu	Leu	Gly	Lys	Glu	Arg	Leu
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545

550

555

560

Ile Lys Glu Ser Phe Gly Ser Gly Phe Ser Leu Trp Asn Ala Ser Asn  
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Val Tyr Tyr Met Ile Lys Gly Ser Leu Lys Glu Tyr Leu Asp Ser Phe  
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&lt;210&gt; 347

&lt;211&gt; 1839

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 347

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&lt;210&gt; 348

&lt;211&gt; 1779

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 348

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<211> 224

<212> PRT

<213> Homo sapiens

<400> 349

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20 25 30

Tyr Ile Val Lys Glu Asn Ile Lys Thr Glu Ile Lys Lys Leu Lys Gln  
35 40 45

Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile  
50 55 60

Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile  
65 70 75 80

Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile  
85 90 95

Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile  
100 105 110

Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu  
115 120 125

Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys  
130 135 140

Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr  
145 150 155 160

Ile Ala Glu Tyr Tyr Lys Asp Asn Asn Trp Tyr Tyr Ile Leu Ala Ala

	165		170		175
Ile Thr Val Glu Asn Asn Ile Asn Lys Glu Thr Glu Lys Tyr Glu Ile	180		185		190
Arg Ile Asn Pro Lys Ile Tyr Asn Asp Phe Gln Lys Lys Leu Arg Leu	195		200		205
His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu	210		215		220
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Ser Phe Leu Leu Ala Ser Val Asp Val Ala Ile Ser Gln Pro Tyr Ile	35		40		45
Glu Leu Ala Asp Leu Asn Gly Glu Pro Ile Lys Glu Leu Glu Gly Ile	50		55		60
Ser Tyr Ser Phe Ile Asn Val Phe Ser Lys Ile Gly Ser Ser Ala Ile	65		70		75
Ile Ser Phe Asp Leu Ser Asn Glu Ala Ser Lys Lys Tyr Lys Ile Ile	85		90		95
Lys Leu Glu Phe Leu Ser Pro Asp Lys Gly Asn Phe Ile Asn Gln Leu	100		105		110
Ser Ser Leu Thr Ser Gly Lys Gln Gln Ser Lys Lys Glu Leu Ala Lys	115		120		125
Asp Ala Tyr Ser Phe Gly Thr Leu Arg Thr Glu Ser Leu Ser Lys Thr	130		135		140
Ile Ala Glu Tyr Tyr Lys Asp Asn Asn Trp Tyr Tyr Ile Leu Ala Ala	145		150		155
Ile Thr Val Glu Asn Asn Ile Asn Lys Glu Thr Glu Lys Tyr Glu Ile	165		170		175
Arg Ile Asn Pro Lys Ile Tyr Asn Asp Phe Gln Lys Lys Leu Arg Leu	180		185		190
His Phe Lys Ser Asn Gln Ile Lys Lys Phe Pro Ile Pro Ile Ile Glu	195		200		205
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<211> 675					
<212> DNA					
<213> Homo sapiens					

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acagaaatta aaaaactaaa acaaagtttt ttacttgcat ctggtgatgt cgccattagc 180  
caaccctaca tagaattggc agattttaa atggagaccga taaaagaact tgaagggatt 240  
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ctatcaaacg aagcttccaa gaaatacaaaa atcataaaat tagaattttt aagtccagat 360  
aaaggcaatt ttattaacca gctaagcagc cttactagt gaaaacagca atcaaaaaaa 420  
gagcttgcaa aagacgctta ctcatcttgt acattaagaa ctgaatctct ttcaaaaaaca 480  
attgcagaat attacaaaga taacaactgg tattatattt tagcagcaat aacagtagaa 540  
aataatataa ataaagaaac tgaaaaatac gaaattagaa ttaaccctaa aatatataat 600  
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<212> DNA  
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cttgaaggga ttagttattc atttataaat gtattttcaa aaattggatc ttctgctatt 240  
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ttaagtcag ataaaggcaa ttttattaac cagctaagca gccttactag tggaaaaacag 360  
caatcaaaaa aagagcttgc aaaagacgct tactcatttg gtacattaag aactgaatct 420  
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aaatttccaa taccattat agaataa 627

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<211> 127  
<212> PRT  
<213> Homo sapiens

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Phe Phe Lys Ile Leu Leu Ile Pro Arg Ile Gln Asn His Glu Asn Asn  
20 25 30  
Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln Asp Lys Asn Arg  
35 40 45  
Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr Thr Asn Leu Gly  
50 55 60  
Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu Ile Glu Ser Asn  
65 70 75 80  
Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr Ala Asn Ile Ile  
85 90 95  
Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys Ser Asn Gly Asn  
100 105 110

Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg Gly Lys Ile  
 115 120 125

<210> 354  
 <211> 99  
 <212> PRT  
 <213> Homo sapiens

<400> 354  
 His Glu Asn Asn Lys Asn Asn Ile Lys Met Ile Ile Ser Tyr Lys Gln  
 1 5 10 15

Asp Lys Asn Arg Leu Ser Leu Lys Ile Asn Ile Lys Thr Lys Lys Thr  
 20 25 30

Thr Asn Leu Gly Lys Ala Lys Leu Asp Ile Tyr Leu Asp Ser Lys Leu  
 35 40 45

Ile Glu Ser Asn Leu Leu Tyr Ile Ser Ser Lys Asn Phe Thr Thr Tyr  
 50 55 60

Ala Asn Ile Ile Tyr Gln Asn Glu Ser Leu Leu Ser Ile Ile Leu Lys  
 65 70 75 80

Ser Asn Gly Asn Asn Asn Val Phe Tyr Ser Lys Arg Ile Lys Pro Arg  
 85 90 95

Gly Lys Ile

<210> 355  
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 <212> DNA  
 <213> Homo sapiens

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 accaacctgg gaaaagccaa actagatatt tatctagaca gttaaattaat tgaaagcaat 240  
 ttgctttata taagcagcaa aaactttaca acatatgcta atataatcta tcaaaatgaa 300  
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<210> 356  
 <211> 300  
 <212> DNA  
 <213> Homo sapiens

<400> 356  
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<210> 357  
 <211> 378  
 <212> PRT  
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<400> 357

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Lys Ile Pro Phe Gly Thr Leu Pro Gly Ala Ile Met Pro Leu Asn Asn  
35 40 45  
Lys Phe Thr Asn Ser Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val  
50 55 60  
Tyr Ile Ala Glu Ile Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr  
65 70 75 80  
Gly Lys Leu Ile Gln Thr Tyr Gln Asn Gly Ile Phe Lys Thr Asn Pro  
85 90 95  
Asp Leu Lys Ile Lys Lys Ile Asp Phe Glu Gly Ile Gln Ala Ile Tyr  
100 105 110  
Pro Leu Lys Asp Phe Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys  
115 120 125  
Ser Lys Phe Asn Gln Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu  
130 135 140  
Ile Leu Asn Lys Asn Ser Ser Val Glu Ile Leu Gly Gln Glu Gly Leu  
145 150 155 160  
Asn Gly Met Pro Phe Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn  
165 170 175  
Gly Asn Ile Ala Ile Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr  
180 185 190  
Ser Tyr Asn Lys Glu Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys  
195 200 205  
Asn Leu Leu Lys Thr Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser  
210 215 220  
Ile Asp Lys Val Phe Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys  
225 230 235 240  
Thr Thr Tyr Tyr Glu Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu  
245 250 255  
Gly Ile Lys Ile Lys Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys  
260 265 270  
Asn Lys Glu Leu Glu Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu  
275 280 285  
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290 295 300  
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                                  340                      345                      350  
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 Lys Phe Asp Ile Lys Thr Tyr Asn Gly Leu Val Tyr Ile Ala Glu Ile  
                                  35                      40                      45  
 Lys Thr Asn Lys Leu Met Ile Phe Asn Ser Tyr Gly Lys Leu Ile Gln  
                                  50                      55                      60  
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 Ile Ile Val Ala Asp Lys Leu Asn Asn Lys Lys Ser Lys Phe Asn Gln  
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 Lys Glu Asn Ile Ala Tyr Phe Met Arg Ile Leu Ile Leu Asn Lys Asn  
                                  115                      120                      125  
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 Pro Gln Ile Tyr Asp Val Asn Val Asp Glu Asn Gly Asn Ile Ala Ile  
  145                      150                      155                      160  
 Ile Ser Ile Tyr Ser Glu Gly Tyr Ile Ile Tyr Ser Tyr Asn Lys Glu  
                                  165                      170                      175  
 Phe Ser Pro Leu Tyr Lys Ile Tyr Val Asn Lys Asn Leu Leu Lys Thr  
                                  180                      185                      190  
 Ile Asp Asn Gln Lys Lys Lys Tyr Asn Ile Ser Ile Asp Lys Val Phe  
                                  195                      200                      205  
 Phe Glu Val Asn Lys Lys Thr Leu Tyr Val Lys Thr Thr Tyr Tyr Glu



210	215	220
Asn Ile Gly Asp Asn Glu Asn Ile Asn Asp Leu Gly Ile Lys Ile Lys		
225	230	235 240
Asp Gln Tyr Ile Tyr Lys Met Ser Leu Lys Lys Asn Lys Glu Leu Glu		
	245	250 255
Val Ile Asn Lys Ile Ala Leu Pro Lys Asn Leu Leu Asp Asp Lys Gln		
	260	265 270
Glu Ser Phe Ile Asn Ile Ile Lys Ile Gln Lys Asp Lys Ile Ile Ala		
	275	280 285
Ser Thr Asn Met Lys Asn Leu Ser Asn Asn Leu Ile Trp Lys Leu Asp		
	290	295 300
Ser Lys Gly Ser Ile Lys Glu Gln Ile Ala Leu Ile Glu Pro Pro Asn		
305	310	315 320
Leu Met Phe Leu Ser Glu Ser Leu Ser Lys Asp Gly Ile Leu Ser Ile		
	325	330 335
Leu Tyr Gly Gly Lys Thr Gly Val Ser Val Tyr Trp Trp Asn Leu Asn		
	340	345 350
Ala Leu Leu Lys Leu		
355		

<210> 359

<211> 1137

<212> DNA

<213> Homo sapiens

<400> 359

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ggtgcaataa	tgccctctgaa	taacaaat	acaaattcaa	aatttgacat	caaaacgtat	180
aacgggctag	tgtacattgc	agaaataaaa	acaaataaat	taatgatttt	caactcatat	240
ggaaaactaa	tacaaacata	tcaaaatgga	atatttaaaa	caaaccctga	tttaaaaaata	300
aaaaaaatag	attttgagg	aattcaagca	atataccac	taaaagattt	tattattgtc	360
gcagacaaac	taaataataa	aaaatcaaaa	ttcaaccaa	aagagaatat	tgctacttc	420
atgagaatac	taataactaa	caaaaactca	tctgtagaaa	ttttgggtca	agaagggtta	480
aacggaatgc	catttccaca	aatttatgat	gttaatgttg	atgaaaatgg	caacattgca	540
ataatatcaa	tatatagcga	aggatatata	atatattctt	acaataaaga	attttccccg	600
ctttataaaa	tttacgtcaa	caaaaacctg	ttaaaaacaa	tagacaatca	aaagaaaaaa	660
tacaacattt	caatagataa	ggtttttttt	gaagtcaaca	aaaaaactct	ttatgtaaaa	720
actacttact	atgaaaacat	tggtgacaat	gaaaatataa	acgatcttgg	aattaaaatt	780
aaagatcaat	atatctataa	aatgagtttg	aaaaaaaaa	aagaattaga	agtataaat	840
aaaattgctc	ttcctaaaaa	cttactagat	gataaacaag	aaagctttat	aaacattata	900
aaaatacaaa	aagacaaaat	aatagcatct	actaatatga	aaaatttatc	taacaattta	960
atatggaaat	tagacagcaa	gggctcaatt	aaagaacaaa	tagctttaat	tgagcctcca	1020
aatttaattgt	ttctctctga	gagtttatct	aaagatggaa	tacttagtat	actttatggc	1080
ggaaaaactg	gtgttagtgt	ttactgggtg	aatttaaatt	cattattaaa	attataa	1137

<210> 360

<211> 1074

<212> DNA

<213> Homo sapiens

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<400> 360
aaaacttttaa acgaattagg agaagaacaa tttaaaatac catttggaac acttctctggt 60
gcaataatgc ctctgaataa caaatTTTaca aattcaaaat ttgacatcaa aacgtataac 120
gggctagtgt acattgcaga aataaaaaaca aataaattaa tgattttcaa ctcatacggg 180
aaactaatac aaacatatca aaatggaata tttaaaacaa accccgattt aaaaataaaa 240
aaaatagatt ttgaaggaat tcaagcaata taccactaa aagattttat tattgtcgca 300
gacaaactaa ataataaaaa atcaaaattc aaccaaanaag agaattattgc ctacttcattg 360
agaatactaa tactaaacaa aaactcatct gtagaaattt tgggtcaaga aggttttaaac 420
ggaatgccat ttccacaaat ttatgatgtt aatgttgatg aaaatggcaa cattgcaata 480
atatcaatat atagcgaagg atatataata tattcttaca ataaagaatt ttccccgctt 540
tataaaattt acgtcaacaa aaacctgtta aaaacaatag acaatcaaaa gaaaaaatac 600
aacatttcaa tagataaggt tttttttgaa gtcaacaaaa aaactcttta tgtaaaaact 660
acttactatg aaaacattgg tgacaatgaa aatataaacg atcttggaat taaaattaaa 720
gatcaatata tctataaaat gagtttgaaa aaaaacaaag aattagaagt gataaataaa 780
attgctcttc ctaaaaactt actagatgat aaacaagaaa gctttataaa cattataaaa 840
atacaaaaag acaaaataat agcatctact aatatgaaaa atttatctaa caatttaata 900
tggaatttag acagcaaggg ctcaattaaa gaacaaatag ctttaattga gcctccaaat 960
ttaatgtttc tctctgagag tttatctaaa gatggaatac ttagtatact ttatggcgga 1020
aaaactggtg ttagtgttta ctggtggaat ttaaatgcat tattaaaatt ataa 1074

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<210> 361

<211> 290

<212> PRT

<213> Homo sapiens

<400> 361

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Met Tyr Lys Leu Phe Leu Phe Phe Ile Ile Phe Met Phe Leu Ser Cys
  1              5              10              15

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Asp Glu Lys Lys Ser Ser Lys Asn Leu Lys Ser Val Lys Ile Gly Tyr
      20              25              30

```

```

Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val Val
      35              40              45

```

```

Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr Ser
      50              55              60

```

```

Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val Ser
      65              70              75              80

```

```

Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys Thr
      85              90              95

```

```

Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly Phe
      100             105             110

```

```

Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys Gly
      115             120             125

```

```

Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly Ala
      130             135             140

```

```

Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu Ser
      145             150             155             160

```

```

Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala Ser
      165             170             175

```

```

Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu Trp

```

180	185	190
Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp Asp		
195	200	205
Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val Arg		
210	215	220
Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp His		
225	230	235
Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn Asp		
	245	250
Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu Lys		
	260	265
Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr Leu		
	275	280
Phe Asp		
290		

<210> 362  
 <211> 275  
 <212> PRT  
 <213> Homo sapiens

<400> 362
Cys Asp Glu Lys Lys Ser Ser Lys Asn Leu Lys Ser Val Lys Ile Gly
1 5 10 15
Tyr Val Asn Trp Gly Gly Glu Thr Ala Ala Thr Asn Val Leu Lys Val
20 25 30
Val Phe Glu Lys Met Gly Tyr Asn Ala Glu Ile Phe Ser Val Thr Thr
35 40 45
Ser Ile Met Tyr Gln Tyr Leu Ala Ser Gly Lys Ile Asp Gly Thr Val
50 55 60
Ser Ser Trp Val Pro Thr Ala Asp Lys Phe Tyr Tyr Glu Lys Leu Lys
65 70 75 80
Thr Lys Phe Val Asp Leu Gly Ala Asn Tyr Glu Gly Thr Ile Gln Gly
85 90 95
Phe Val Val Pro Ser Tyr Val Pro Ile Ser Ser Ile Ser Glu Leu Lys
100 105 110
Gly Lys Gly Asp Lys Phe Lys Asn Lys Met Ile Gly Ile Asp Ala Gly
115 120 125
Ala Gly Thr Gln Ile Val Thr Glu Gln Ala Leu Asn Tyr Tyr Gly Leu
130 135 140
Ser Lys Glu Tyr Glu Leu Val Pro Ser Ser Glu Ser Val Met Leu Ala
145 150 155 160
Ser Leu Asp Ser Ser Ile Lys Arg Asn Glu Trp Ile Leu Val Pro Leu

165	170	175
Trp Lys Pro His Trp Ala Phe Ser Arg Tyr Asp Ile Lys Phe Leu Asp		
180	185	190
Asp Pro Asp Leu Ile Met Gly Gly Ile Glu Ser Val His Thr Leu Val		
195	200	205
Arg Leu Gly Leu Glu Asn Asp Asp Phe Asp Ala Tyr Tyr Val Phe Asp		
210	215	220
His Phe Tyr Trp Ser Asp Asp Leu Ile Leu Pro Leu Met Asp Lys Asn		
225	230	235
Asp Lys Glu Pro Gly Lys Glu Tyr Arg Asn Ala Val Glu Phe Val Glu		
245	250	255
Lys Asn Lys Glu Ile Val Lys Thr Trp Val Pro Glu Lys Tyr Lys Thr		
260	265	270
Leu Phe Asp		
275		

<210> 363  
 <211> 873  
 <212> DNA  
 <213> Homo sapiens

<400> 363

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agttcaaaga	atttaaaatc	ggtaaaaatt	ggatatgtga	attgggggtg	agaaacggca	120
gctacaaatg	tattaaaggt	tgtttttgag	aaaatgggct	acaatgcaga	aatattttca	180
gttactacgt	ctataatgta	tcaataactta	gcatctggaa	agatagacgg	tacgggtgtct	240
tcttgggttc	ctacagccga	taaattttat	tatgaaaaac	tgaaaacaaa	gtttgttgat	300
cttgggtgca	attatgaagg	aaccattcaa	ggttttgtgg	tgccaagcta	tgttccaatt	360
tccagcatta	gtgagcttaa	gggtaaaggt	gataagttta	aaaacaaaat	gattggcata	420
gatgctgggtg	cgggaaactca	aattgtttaca	gaacaagcgc	ttaattatta	tggattaagt	480
aaagagtatg	agctagtctc	ttcaagttag	agtgttatgc	ttgcaagttt	agattcttca	540
ataaagagaa	acgaatggat	tttagttcct	ttgtggaagc	ctcattgggc	tttttctagg	600
tatgatatta	agtttcttga	tgatcctgat	ttaattatgg	ggggaattga	gagcgtgcat	660
actcttggtta	gacttgggtc	tgaaaatgat	gatttttgatg	catattatgt	ttttgatcat	720
ttttattgga	gcgatgattt	aatattgccc	ttaatggata	aaaatgataa	agagccaggc	780
aaagaatacc	gcaatgcggg	tgaatttggt	gaaaagaata	aagagattgt	aaagacgtgg	840
gttccagaaa	aatataagac	cttatttgat	ttaa			873

<210> 364  
 <211> 828  
 <212> DNA  
 <213> Homo sapiens

<400> 364

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gggtggagaaa	cggcagctac	aaatgtatta	aagggtgttt	ttgagaaaat	gggctacaat	120
gcagaaatat	tttcagttac	tacgtctata	atgtatcaat	acttagcatc	tggaaagata	180
gacgggtacgg	tgtcttcttg	ggttcctaca	gccgataaat	tttattatga	aaaactgaaa	240
acaaagtttg	ttgatcttgg	tgcaaattat	gaaggaacca	ttcaaggttt	tgtggtgcca	300
agctatgttc	caatttccag	cattagttag	cttaagggta	aaggtgataa	gtttaaaaac	360
aaaatgattg	gcatagatgc	tggtgcggga	actcaaattg	ttacagaaca	agcgtttaat	420
tattatggat	taagtaaaga	gtatgagcta	gttccttcaa	gtgagagtgt	tatgcttgca	480
agtttagatt	cttcaataaa	gagaaacgaa	tggatttttag	ttcctttgtg	gaagcctcat	540

tgggcttttt ctaggtatga tattaagttt cttgatgatc ctgatttaat tatgggggga 600  
 attgagagcg tgcatactct tgtagactt ggtcttgaaa atgatgattt tgatgcatat 660  
 tatgtttttg atcattttta ttggagcgat gatttaatat tgcccttaat ggataaaaaa 720  
 gataaagagc caggcaaaga ataccgcaat gcggttgaat ttgttgaaaa gaataaagag 780  
 attgtaaaga cgtgggttcc agaaaaatat aagaccttat ttgattaa 828

<210> 365

<211> 1036

<212> PRT

<213> Homo sapiens

<400> 365

Met Leu Val Lys Arg Ile Val Gly Lys Pro Ile Thr Met Leu Ile Leu  
 1 5 10 15  
 Phe Ser Leu Leu Leu Met Ile Ser Leu Tyr Thr Phe Ser Arg Leu Lys  
 20 25 30  
 Val Asp Leu Leu Pro Gly Ile Asp Ile Pro Gln Ile Ser Ile His Thr  
 35 40 45  
 Val Tyr Pro Gly Ala Ser Pro Arg Glu Val Glu Glu Ser Val Ser Arg  
 50 55 60  
 Val Leu Glu Ser Gly Leu Ser Ser Val Lys Asn Leu Lys Asn Ile Tyr  
 65 70 75 80  
 Ser Val Ser Ser Lys Glu Ser Ser Thr Val Ser Leu Glu Phe Tyr His  
 85 90 95  
 Gly Thr Asp Leu Asp Leu Val Leu Asn Glu Ile Arg Asp Ala Leu Glu  
 100 105 110  
 Leu Val Lys Ser Ser Leu Pro Ser Lys Ser Gln Thr Pro Arg Ile Phe  
 115 120 125  
 Arg Tyr Asn Leu Lys Asn Ile Pro Val Met Glu Ile Val Ile Asn Ser  
 130 135 140  
 Val Arg Pro Val Ser Glu Leu Lys Arg Tyr Ala Asp Glu Ile Ile Lys  
 145 150 155 160  
 Pro Gly Leu Glu Arg Leu Asp Gly Val Ala Ile Val Thr Val Asn Gly  
 165 170 175  
 Gly Ser Lys Lys Arg Val Leu Ile Glu Val Ser Gln Asn Arg Leu Glu  
 180 185 190  
 Ser Tyr Gly Leu Ser Leu Ser Arg Ile Ser Ser Ile Ile Ala Ser Gln  
 195 200 205  
 Asn Leu Glu Leu Ser Ala Gly Asn Ile Leu Glu Asn Asn Leu Glu Tyr  
 210 215 220  
 Leu Val Glu Val Ser Gly Lys Phe Lys Ser Ile Glu Glu Ile Gly Asn  
 225 230 235 240  
 Val Val Ile Ala Tyr Lys Ile Pro Asp Ile Ser Ser Gly Ile Asn Leu  
 245 250 255

Ser Pro Ile Glu Ile Lys Leu Lys Asp Ile Ala Asn Ile Lys Thr Asp  
 260 265 270  
 Phe Glu Asp Leu Ser Glu Tyr Val Glu Tyr Asn Gly Leu Pro Ser Ile  
 275 280 285  
 Ser Leu Ser Val Gln Lys Arg Ser Asp Ser Asn Ser Ile Ala Val Ser  
 290 295 300  
 Asn Val Val Met Asn Glu Ile Glu Lys Leu Lys Leu Ser Met Pro Lys  
 305 310 315 320  
 Asp Met Lys Leu Glu Ile Ala Ser Asp Ser Thr Asp Phe Ile Lys Ala  
 325 330 335  
 Ser Ile Ser Thr Val Val Asn Ser Ala Tyr Phe Gly Ala Met Leu Ala  
 340 345 350  
 Ile Phe Val Ile Phe Phe Phe Leu Arg Ser Phe Arg Ala Thr Ile Ile  
 355 360 365  
 Ile Gly Ile Ser Ile Pro Ile Ala Ile Val Leu Thr Phe Cys Leu Met  
 370 375 380  
 Tyr Phe Val Asn Ile Ser Leu Asn Ile Met Ser Leu Ala Gly Leu Ala  
 385 390 395 400  
 Leu Gly Ile Gly Met Val Val Asp Cys Ser Ile Val Val Ile Asp Asn  
 405 410 415  
 Ile Tyr Lys Tyr Arg Gln Lys Gly Ala Lys Leu Ile Ser Ser Ser Ile  
 420 425 430  
 Leu Gly Ala Gln Glu Met Met Leu Pro Ile Thr Ser Ser Thr Phe Thr  
 435 440 445  
 Ser Ile Cys Val Phe Gly Pro Phe Leu Ile Phe Lys Ser Glu Leu Gly  
 450 455 460  
 Val Tyr Gly Asp Phe Phe Lys Asp Phe Thr Phe Thr Ile Val Ile Ser  
 465 470 475 480  
 Leu Gly Val Ser Leu Leu Val Ala Ile Phe Leu Val Pro Val Leu Ser  
 485 490 495  
 Ser His Tyr Val Gly Leu Tyr Thr Ser Phe Gln Lys Asn Ile Lys Asn  
 500 505 510  
 Ala Phe Ile Arg Lys Ile Asp Ala Phe Phe Ala Ser Ile Tyr Tyr Phe  
 515 520 525  
 Leu Glu Phe Leu Tyr Ile Asn Leu Leu Asn Ile Val Leu Asn His Lys  
 530 535 540  
 Leu Ile Phe Gly Leu Ile Val Phe Phe Ser Phe Ile Gly Ser Leu Leu  
 545 550 555 560  
 Leu Gly Leu Leu Leu Asp Val Thr Thr Phe Thr Arg Gly Lys Glu Asn  
 565 570 575

Ser Ile Thr Ile Asn Leu Asn Phe Pro His Lys Thr Asn Leu Glu Tyr  
 580 585 590  
 Ala Lys Phe Tyr Ser Asn Arg Phe Leu Glu Ile Val Lys Ser Glu Ala  
 595 600 605  
 Lys Gly Tyr Lys Ser Ile Ile Ala Thr Leu Arg Ala Asp Arg Ile Thr  
 610 615 620  
 Phe Asn Val Leu Phe Pro Leu Lys Glu Glu Ser Arg Asp Asn Leu Thr  
 625 630 635 640  
 Gln Ser Val Asp Tyr Asp Ser Ile Lys Tyr Lys Ile Met Asn Arg Ile  
 645 650 655  
 Gly Asn Leu Tyr Pro Glu Phe Asn Ile Glu Pro Ser Ile Ser Gly Asn  
 660 665 670  
 Ala Leu Gly Gly Gly Asp Ser Ile Lys Ile Lys Ile Ser Ala Asn Asp  
 675 680 685  
 Phe Glu Tyr Ile Lys Asp Tyr Gly Lys Ile Leu Val Ser Met Leu Lys  
 690 695 700  
 Lys Glu Ile Pro Glu Leu Val Asn Pro Arg Leu Ser Ile Ser Asp Phe  
 705 710 715 720  
 Gln Leu Gln Ile Gly Val Glu Ile Asp Arg Ala Leu Val Tyr Asn Tyr  
 725 730 735  
 Gly Ile Asp Met Asn Thr Ile Leu Asn Glu Leu Lys Ala Asn Ile Asn  
 740 745 750  
 Gly Val Val Ala Gly Gln Tyr Val Glu Lys Gly Leu Asn Tyr Asp Ile  
 755 760 765  
 Val Leu Lys Leu Asp Arg Met Asp Val Lys Asn Leu Lys Asp Leu Glu  
 770 775 780  
 Lys Ile Phe Ile Thr Asn Ser Ser Gly Val Lys Ile Pro Phe Ser Ser  
 785 790 795 800  
 Ile Ala Thr Phe Glu Lys Thr Asn Lys Ala Glu Ser Ile Tyr Arg Glu  
 805 810 815  
 Asn Gln Ala Leu Thr Ile Tyr Leu Asn Ala Gly Ile Ser Pro Asp Asp  
 820 825 830  
 Asn Leu Thr Gln Val Thr Ala Lys Val Val Asp Phe Ile Asn Asn Lys  
 835 840 845  
 Val Pro His Lys Glu Gly Ile Thr Leu Lys Val Glu Gly Glu Tyr Asn  
 850 855 860  
 Glu Phe Ser Asn Ile Met Asn Gln Phe Lys Ile Ile Ile Met Met Ala  
 865 870 875 880  
 Ile Ile Val Val Phe Gly Ile Met Ala Ser Gln Phe Glu Ser Phe Leu  
 885 890 895

Lys Pro Phe Ile Ile Ile Phe Thr Ile Pro Leu Thr Ala Ile Gly Val  
 900 905 910  
 Val Leu Ile His Phe Leu Ala Gly Glu Lys Leu Ser Ile Phe Ala Ala  
 915 920 925  
 Ile Gly Met Leu Met Leu Val Gly Val Val Val Asn Thr Gly Ile Val  
 930 935 940  
 Leu Val Asp Tyr Thr Gly Leu Leu Ile Lys Arg Gly Phe Gly Leu Arg  
 945 950 955 960  
 Glu Ala Ile Ile Glu Ser Cys Arg Ser Arg Leu Arg Pro Ile Leu Met  
 965 970 975  
 Ser Ser Leu Thr Ser Ile Ile Gly Leu Ile Pro Met Ala Phe Ser Ser  
 980 985 990  
 Gly Ser Gly Asn Glu Leu Leu Lys Pro Ile Ala Phe Thr Phe Ile Gly  
 995 1000 1005  
 Gly Met Thr Ala Ser Thr Phe Leu Thr Leu Phe Phe Ile Pro Met Leu  
 1010 1015 1020  
 Phe Glu Ile Phe Pro Thr Cys Phe Lys Phe Gln Ile  
 1025 1030 1035  
 <210> 366  
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 <212> PRT  
 <213> Homo sapiens  
 <400> 366  
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 Ile His Thr Val Tyr Pro Gly Ala Ser Pro Arg Glu Val Glu Glu Ser  
 20 25 30  
 Val Ser Arg Val Leu Glu Ser Gly Leu Ser Ser Val Lys Asn Leu Lys  
 35 40 45  
 Asn Ile Tyr Ser Val Ser Ser Lys Glu Ser Ser Thr Val Ser Leu Glu  
 50 55 60  
 Phe Tyr His Gly Thr Asp Leu Asp Leu Val Leu Asn Glu Ile Arg Asp  
 65 70 75 80  
 Ala Leu Glu Leu Val Lys Ser Ser Leu Pro Ser Lys Ser Gln Thr Pro  
 85 90 95  
 Arg Ile Phe Arg Tyr Asn Leu Lys Asn Ile Pro Val Met Glu Ile Val  
 100 105 110  
 Ile Asn Ser Val Arg Pro Val Ser Glu Leu Lys Arg Tyr Ala Asp Glu  
 115 120 125  
 Ile Ile Lys Pro Gly Leu Glu Arg Leu Asp Gly Val Ala Ile Val Thr  
 130 135 140



Val Asn Gly Gly Ser Lys Lys Arg Val Leu Ile Glu Val Ser Gln Asn  
145 150 155 160  
Arg Leu Glu Ser Tyr Gly Leu Ser Leu Ser Arg Ile Ser Ser Ile Ile  
165 170 175  
Ala Ser Gln Asn Leu Glu Leu Ser Ala Gly Asn Ile Leu Glu Asn Asn  
180 185 190  
Leu Glu Tyr Leu Val Glu Val Ser Gly Lys Phe Lys Ser Ile Glu Glu  
195 200 205  
Ile Gly Asn Val Val Ile Ala Tyr Lys Ile Pro Asp Ile Ser Ser Gly  
210 215 220  
Ile Asn Leu Ser Pro Ile Glu Ile Lys Leu Lys Asp Ile Ala Asn Ile  
225 230 235 240  
Lys Thr Asp Phe Glu Asp Leu Ser Glu Tyr Val Glu Tyr Asn Gly Leu  
245 250 255  
Pro Ser Ile Ser Leu Ser Val Gln Lys Arg Ser Asp Ser Asn Ser Ile  
260 265 270  
Ala Val Ser Asn Val Val Met Asn Glu Ile Glu Lys Leu Lys Leu Ser  
275 280 285  
Met Pro Lys Asp Met Lys Leu Glu Ile Ala Ser Asp Ser Thr Asp Phe  
290 295 300  
Ile Lys Ala Ser Ile Ser Thr Val Val Asn Ser Ala Tyr Phe Gly Ala  
305 310 315 320  
Met Leu Ala Ile Phe Val Ile Phe Phe Phe Leu Arg Ser Phe Arg Ala  
325 330 335  
Thr Ile Ile Ile Gly Ile Ser Ile Pro Ile Ala Ile Val Leu Thr Phe  
340 345 350  
Cys Leu Met Tyr Phe Val Asn Ile Ser Leu Asn Ile Met Ser Leu Ala  
355 360 365  
Gly Leu Ala Leu Gly Ile Gly Met Val Val Asp Cys Ser Ile Val Val  
370 375 380  
Ile Asp Asn Ile Tyr Lys Tyr Arg Gln Lys Gly Ala Lys Leu Ile Ser  
385 390 395 400  
Ser Ser Ile Leu Gly Ala Gln Glu Met Met Leu Pro Ile Thr Ser Ser  
405 410 415  
Thr Phe Thr Ser Ile Cys Val Phe Gly Pro Phe Leu Ile Phe Lys Ser  
420 425 430  
Glu Leu Gly Val Tyr Gly Asp Phe Phe Lys Asp Phe Thr Phe Thr Ile  
435 440 445  
Val Ile Ser Leu Gly Val Ser Leu Leu Val Ala Ile Phe Leu Val Pro  
450 455 460

Val	Leu	Ser	Ser	His	Tyr	Val	Gly	Leu	Tyr	Thr	Ser	Phe	Gln	Lys	Asn	
465					470					475					480	
Ile	Lys	Asn	Ala	Phe	Ile	Arg	Lys	Ile	Asp	Ala	Phe	Phe	Ala	Ser	Ile	
				485					490					495		
Tyr	Tyr	Phe	Leu	Glu	Phe	Leu	Tyr	Ile	Asn	Leu	Leu	Asn	Ile	Val	Leu	
			500					505					510			
Asn	His	Lys	Leu	Ile	Phe	Gly	Leu	Ile	Val	Phe	Phe	Ser	Phe	Ile	Gly	
		515					520					525				
Ser	Leu	Leu	Leu	Gly	Leu	Leu	Leu	Asp	Val	Thr	Thr	Phe	Thr	Arg	Gly	
	530					535					540					
Lys	Glu	Asn	Ser	Ile	Thr	Ile	Asn	Leu	Asn	Phe	Pro	His	Lys	Thr	Asn	
545					550					555					560	
Leu	Glu	Tyr	Ala	Lys	Phe	Tyr	Ser	Asn	Arg	Phe	Leu	Glu	Ile	Val	Lys	
				565					570					575		
Ser	Glu	Ala	Lys	Gly	Tyr	Lys	Ser	Ile	Ile	Ala	Thr	Leu	Arg	Ala	Asp	
			580					585					590			
Arg	Ile	Thr	Phe	Asn	Val	Leu	Phe	Pro	Leu	Lys	Glu	Glu	Ser	Arg	Asp	
		595					600					605				
Asn	Leu	Thr	Gln	Ser	Val	Asp	Tyr	Asp	Ser	Ile	Lys	Tyr	Lys	Ile	Met	
	610					615					620					
Asn	Arg	Ile	Gly	Asn	Leu	Tyr	Pro	Glu	Phe	Asn	Ile	Glu	Pro	Ser	Ile	
625					630					635					640	
Ser	Gly	Asn	Ala	Leu	Gly	Gly	Gly	Asp	Ser	Ile	Lys	Ile	Lys	Ile	Ser	
				645					650					655		
Ala	Asn	Asp	Phe	Glu	Tyr	Ile	Lys	Asp	Tyr	Gly	Lys	Ile	Leu	Val	Ser	
			660					665					670			
Met	Leu	Lys	Lys	Glu	Ile	Pro	Glu	Leu	Val	Asn	Pro	Arg	Leu	Ser	Ile	
		675					680					685				
Ser	Asp	Phe	Gln	Leu	Gln	Ile	Gly	Val	Glu	Ile	Asp	Arg	Ala	Leu	Val	
	690					695					700					
Tyr	Asn	Tyr	Gly	Ile	Asp	Met	Asn	Thr	Ile	Leu	Asn	Glu	Leu	Lys	Ala	
705					710					715					720	
Asn	Ile	Asn	Gly	Val	Val	Ala	Gly	Gln	Tyr	Val	Glu	Lys	Gly	Leu	Asn	
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<212> DNA

<213> Homo sapiens

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Asn Val Tyr Gly Lys Gly Lys Lys Gly Glu Lys His Gly Asn Gly Val  
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Trp Pro Glu Glu Asn Phe Ile Leu Ile Ile Tyr Thr Ser Asn Gln Ser  
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 Ala Ile Asp Arg Lys Thr Gly Lys Tyr Ser Glu Glu Asp Tyr Thr Ser  
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 Ser Ile Leu Ala Ile Tyr Pro Thr Glu Gln Pro Lys Tyr Ile Ile Tyr  
 465 470 475 480  
 Ile Val Tyr Arg Tyr Pro Lys Lys Ile Ile Tyr Gly Thr Arg Ile Ala  
 485 490 495  
 Ala Pro Met Ala Lys Glu Ile Ile Glu Phe Ile Glu His Gln Gln Asn  
 500 505 510  
 Thr Ile Ala Tyr Lys Lys Ile Lys Met Pro Ser Lys Ile Lys Ile Pro  
 515 520 525  
 Lys Ala Glu Thr Asn Tyr Lys Asn Lys Thr Tyr Leu Pro Asn Phe Ile  
 530 535 540

Asn Leu Ser Lys Arg Glu Ala Ile Asp Ile Leu Lys Tyr Tyr Lys Asn  
545 550 555 560

Thr Met Lys Ile Lys Ile Asn Gly Asp Gly Phe Val Tyr Lys Gln Ser  
565 570 575

Ile Ser Pro Asn Thr Lys Leu Glu Asp Ile Thr Glu Leu Glu Leu Tyr  
580 585 590

Leu Lys

<210> 375  
<211> 1878  
<212> DNA  
<213> Homo sapiens

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gataatcttg gccttgaggg cattgaattt tccctaaata gcatattagg aaaagataaa 540  
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gaagcaatag acatactaaa atactataaa aatactatga aaataaaaaat aaatggcgat 1800  
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<210> 376  
<211> 1785  
<212> DNA  
<213> Homo sapiens

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acaaatcctc aaaaaataga aaatattgta agcacatctg aaactcttgg tgcaataact 180

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caaattaatt caagaatttt aaaggaaaag ctttcctcta acaaagggtt tttatatata 240
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agcaatatta ctgggtttgt aggaacagat aatcttggcc ttgagggcat tgaattttcc 420
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<210> 377

<211> 203

<212> PRT

<213> Homo sapiens

<400> 377

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Val Lys Ser Gly Gly Glu Ile Val Glu Asn Leu Glu Lys Asp Leu Asn  
35 40 45

Asp Tyr Leu Lys Glu Asn Asp Ala Lys Glu Arg Glu Lys Ile Phe Leu  
50 55 60

Arg Ile Arg Glu Leu Ile Ser Lys Glu Lys Glu Ile Ser Ser Tyr Phe  
65 70 75 80

Ile Ser Arg Phe Tyr Leu Ala Arg Ala Val Tyr Phe Gln Ser Gln Ala  
85 90 95

Gln Tyr Asp Glu Ala Ile Lys Asp Leu Asp Ile Val Ile Lys Ala Lys  
100 105 110

Gly Ile Glu Ser Glu Ile Ala Phe Leu Asn Lys Ala Ala Val Tyr Glu  
115 120 125

Lys Met Gly Leu Lys Glu Asp Ala Leu Leu Val Tyr Glu Asp Leu Ile  
130 135 140

Asn Ser Thr Ser Leu Asp Phe Leu Lys Val Arg Ala Leu Leu Ser Lys  
 145 150 155 160

Ala Ile Leu Ile Glu Glu Lys Asp Lys Glu Leu Ala Val Lys Val Tyr  
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Glu Glu Ile Val Lys Phe Pro Tyr Glu Asn Asn Leu Tyr Ile Asn Met  
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Ala Asn Asn Lys Ile Leu Glu Leu Lys Gln Asn  
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<210> 378

<211> 179

<212> PRT

<213> Homo sapiens

<400> 378

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Lys Glu Arg Glu Lys Ile Phe Leu Arg Ile Arg Glu Leu Ile Ser Lys  
 35 40 45

Glu Lys Glu Ile Ser Ser Tyr Phe Ile Ser Arg Phe Tyr Leu Ala Arg  
 50 55 60

Ala Val Tyr Phe Gln Ser Gln Ala Gln Tyr Asp Glu Ala Ile Lys Asp  
 65 70 75 80

Leu Asp Ile Val Ile Lys Ala Lys Gly Ile Glu Ser Glu Ile Ala Phe  
 85 90 95

Leu Asn Lys Ala Ala Val Tyr Glu Lys Met Gly Leu Lys Glu Asp Ala  
 100 105 110

Leu Leu Val Tyr Glu Asp Leu Ile Asn Ser Thr Ser Leu Asp Phe Leu  
 115 120 125

Lys Val Arg Ala Leu Leu Ser Lys Ala Ile Leu Ile Glu Glu Lys Asp  
 130 135 140

Lys Glu Leu Ala Val Lys Val Tyr Glu Glu Ile Val Lys Phe Pro Tyr  
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Glu Asn Asn Leu Tyr Ile Asn Met Ala Asn Asn Lys Ile Leu Glu Leu  
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Lys Gln Asn

<210> 379

<211> 612

<212> DNA

<213> Homo sapiens

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 gcaatattga ttgaggaaaa agataaagag cttgctgtga aagtatacga agagattgtt 540  
 aagtttcgt atgaaaataa tttatatata aatatggcaa ataataaaat tttagaactt 600  
 aagcaaaatt aa 612

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 <212> DNA  
 <213> Homo sapiens

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 aggataaggg agcttatttc aaaggaaaaa gaaatttcat cttattttat ttcaagggtc 180  
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 gcagtttatg aaaaaatggg attaaaagaa gatgctttgt tagtttatga agatcttatc 360  
 aatagtacta gtttgattt tttaaaggta agagctcttt tgagtaaggc aatattgatt 420  
 gaggaaaaag ataaagagct tgctgtgaaa gtatagcaag agattgttaa gtttcggtat 480  
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<210> 381  
 <211> 504  
 <212> PRT  
 <213> Homo sapiens

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 Ala Leu Gly Gly Leu Ile Gly Tyr Leu Thr Phe Asn Ile Thr Glu Asn  
 35 40 45  
 Tyr Phe Ile Glu Ala Phe Ser Gly Leu Val Glu Ala Glu Thr Met Ser  
 50 55 60  
 Ser Val Gly Arg Ile Asn Phe Phe Gly Val Gln Thr Leu Asn Thr Gly  
 65 70 75 80  
 Ile Ala Gly Ser Leu Ala Val Gly Leu Leu Val Gly Tyr Leu His Asn  
 85 90 95  
 Lys Phe Tyr Asn Met Lys Leu Pro Lys Pro Phe Val Phe Phe Ser Glu  
 100 105 110  
 Cys His Phe Val Pro Ile Val Ile Ile Leu Pro Phe Cys Val Phe Leu  
 115 120 125  
 Ala Ile Phe Phe Cys Leu Ile Trp Ser Ser Phe Asp Asp Leu Ile Ala

130                      135                      140  
 Ser Leu Gly Leu Phe Val Phe Arg Phe Glu Tyr Phe Gly Ser Phe Leu  
 145                      150                      155                      160  
 Tyr Gly Phe Leu Asn Arg Leu Leu Leu Pro Leu Gly Leu His Ser Ile  
 165                      170                      175  
 Leu Ser Phe Pro Phe Glu Phe Thr Ser Leu Gly Gly Val Glu Ile Val  
 180                      185                      190  
 Asn Gly Asp Thr Val Arg Gly Leu Lys Asn Ile Phe Tyr Ala Gln Leu  
 195                      200                      205  
 Leu Asp Pro Ser Leu Gly Lys Phe Ser Ser Gly Phe Ala Lys Ile Ser  
 210                      215                      220  
 Ser Gly Phe Tyr Leu Ser Ile Met Phe Gly Leu Pro Gly Ala Ala Leu  
 225                      230                      235                      240  
 Gly Val Tyr Lys Gly Ile Val His Glu Asp Lys Asn Lys Val Ala Ala  
 245                      250                      255  
 Leu Leu Phe Ser Gly Ala Leu Thr Ala Phe Leu Thr Gly Ile Thr Glu  
 260                      265                      270  
 Pro Leu Glu Phe Leu Phe Ile Phe Thr Ala Pro Leu Leu Tyr Phe Val  
 275                      280                      285  
 His Ala Ala Tyr Ser Gly Phe Ala Leu Leu Leu Ala Asn Phe Phe Asn  
 290                      295                      300  
 Val Thr Ile Gly Asn Ser Phe Ser Thr Gly Phe Leu Asp Phe Phe Met  
 305                      310                      315                      320  
 Phe Gly Ile Leu Gln Gly Asn Ser Lys Thr Asn Trp Ile Ser Val Leu  
 325                      330                      335  
 Pro Leu Gly Ala Met Phe Phe Ala Leu Tyr Tyr Phe Thr Phe Ser Trp  
 340                      345                      350  
 Leu Tyr Arg Tyr Phe Asp Phe Gln Ile Phe Val Thr Asp Asp Pro Phe  
 355                      360                      365  
 Phe Glu Gly Gln Glu Gly Lys Leu Glu Ser Leu Gly Ile Ala His Leu  
 370                      375                      380  
 Leu Ile Gln Gly Leu Gly Gly Phe Asp Asn Ile Thr Lys Leu Asp Val  
 385                      390                      395                      400  
 Cys Ser Thr Arg Leu His Val Asp Val Val Asn Thr Glu Leu Val Asp  
 405                      410                      415  
 Asn Asn Leu Leu Lys Glu Ala Gly Val Leu Lys Ile Gly Leu Val Asn  
 420                      425                      430  
 Gly Lys Val Gln Leu Phe Tyr Gly Ser Asn Val Tyr Tyr Ile Lys Asn  
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 Ala Ile Asp Thr Tyr Ser Pro Lys Ser Leu Phe Glu Ala Ser Val Met

450                      455                      460  
 Val Ala Val Asp Asn Val Lys Lys Gly Phe Lys Thr Tyr Ile Glu Met  
 465                      470                      475                      480  
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<210> 382  
 <211> 479  
 <212> PRT  
 <213> Homo sapiens

<400> 382  
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 Val Glu Ala Glu Thr Met Ser Ser Val Gly Arg Ile Asn Phe Phe Gly  
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 Val Gln Thr Leu Asn Thr Gly Ile Ala Gly Ser Leu Ala Val Gly Leu  
                     50                      55                      60  
 Leu Val Gly Tyr Leu His Asn Lys Phe Tyr Asn Met Lys Leu Pro Lys  
 65                      70                      75                      80  
 Pro Phe Val Phe Phe Ser Glu Cys His Phe Val Pro Ile Val Ile Ile  
                     85                      90                      95  
 Leu Pro Phe Cys Val Phe Leu Ala Ile Phe Phe Cys Leu Ile Trp Ser  
                     100                      105                      110  
 Ser Phe Asp Asp Leu Ile Ala Ser Leu Gly Leu Phe Val Phe Arg Phe  
                     115                      120                      125  
 Glu Tyr Phe Gly Ser Phe Leu Tyr Gly Phe Leu Asn Arg Leu Leu Leu  
                     130                      135                      140  
 Pro Leu Gly Leu His Ser Ile Leu Ser Phe Pro Phe Glu Phe Thr Ser  
 145                      150                      155                      160  
 Leu Gly Gly Val Glu Ile Val Asn Gly Asp Thr Val Arg Gly Leu Lys  
                     165                      170                      175  
 Asn Ile Phe Tyr Ala Gln Leu Leu Asp Pro Ser Leu Gly Lys Phe Ser  
                     180                      185                      190  
 Ser Gly Phe Ala Lys Ile Ser Ser Gly Phe Tyr Leu Ser Ile Met Phe  
                     195                      200                      205  
 Gly Leu Pro Gly Ala Ala Leu Gly Val Tyr Lys Gly Ile Val His Glu  
                     210                      215                      220  
 Asp Lys Asn Lys Val Ala Ala Leu Leu Phe Ser Gly Ala Leu Thr Ala



225		230		235		240
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Ala Pro Leu Leu Tyr Phe Val His	Ala Ala Tyr Ser Gly Phe Ala Leu					
	260	265		270		
Leu Leu Ala Asn Phe Phe Asn Val Thr Ile Gly	Asn Ser Phe Ser Thr					
	275	280		285		
Gly Phe Leu Asp Phe Phe Met Phe Gly Ile Leu Gln Gly	Asn Ser Lys					
	290	295		300		
Thr Asn Trp Ile Ser Val Leu Pro Leu Gly Ala Met Phe Phe Ala Leu						
	305	310		315		320
Tyr Tyr Phe Thr Phe Ser Trp Leu Tyr Arg Tyr Phe Asp Phe Gln Ile						
	325	330		335		
Phe Val Thr Asp Asp Pro Phe Phe Glu Gly Gln Glu Gly Lys Leu Glu						
	340	345		350		
Ser Leu Gly Ile Ala His Leu Leu Ile Gln Gly Leu Gly Gly Phe Asp						
	355	360		365		
Asn Ile Thr Lys Leu Asp Val Cys Ser Thr Arg Leu His Val Asp Val						
	370	375		380		
Val Asn Thr Glu Leu Val Asp Asn Asn Leu Leu Lys Glu Ala Gly Val						
	385	390		395		400
Leu Lys Ile Gly Leu Val Asn Gly Lys Val Gln Leu Phe Tyr Gly Ser						
	405	410		415		
Asn Val Tyr Tyr Ile Lys Asn Ala Ile Asp Thr Tyr Ser Pro Lys Ser						
	420	425		430		
Leu Phe Glu Ala Ser Val Met Val Ala Val Asp Asn Val Lys Lys Gly						
	435	440		445		
Phe Lys Thr Tyr Ile Glu Met Lys Glu Asp Lys Lys Leu Glu Lys Gln						
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<210> 383

<211> 1515

<212> DNA

<213> Homo sapiens

<400> 383

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<210> 384

<211> 1440

<212> DNA

<213> Homo sapiens

<400> 384

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gcagttgata	atgtaaaaaa	aggtttttaa	acttatattg	aaatgaaaga	agacaaaaaa	1380
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<210> 385

<211> 454

<212> PRT

<213> Homo sapiens

<400> 385

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1

5

10

15

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                     20                    25                    30  
 Asp Lys Tyr Tyr Phe Glu Ile Leu Asn Asp Gly Phe Gly Phe Ser Leu  
                     35                    40                    45  
 Ser Asp Phe Phe Asp Asp Leu Arg Ser Gly Ser Leu Ile Phe Thr Tyr  
                     50                    55                    60  
 Val Ser Lys Tyr Asn Phe Ile Ile Asn Leu Glu Ala His Met Leu Thr  
                     65                    70                    75                    80  
 Tyr Arg Gly Tyr Lys Asp Ser Pro Lys Ser Leu Ile Ser Arg Thr Asp  
                     85                    90                    95  
 Leu Ile Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile  
                     100                    105                    110  
 Asn Gly Lys Asn Phe Gly Glu Ile Asp Leu Gly Ile Gly Val Lys Asn  
                     115                    120                    125  
 Leu Leu Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His  
                     130                    135                    140  
 Leu Ile Leu Asn Gln His Arg Pro Ile Pro Ser Ile Lys Ser Tyr Asp  
                     145                    150                    155                    160  
 Ser Tyr Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr  
                     165                    170                    175  
 Met Asn Phe Leu Asn Leu Glu Asn Tyr Met Asp Leu Ser Tyr Phe Ala  
                     180                    185                    190  
 Asp Tyr Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn  
                     195                    200                    205  
 Ile Gly Phe Asp Ile Lys Leu Tyr Ser Gln Ile Gln Asn Gln Ile Lys  
                     210                    215                    220  
 Ser Leu Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly  
                     225                    230                    235                    240  
 Ile Asn Tyr Gln Phe Tyr Ser Lys Asn Phe Phe Ile Thr Asn Asn Leu  
                     245                    250                    255  
 Asn Ile Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly  
                     260                    265                    270  
 Phe Gly Ile Ile Ile Thr Pro Glu Glu Tyr Lys Lys Ile Ser Glu Ser  
                     275                    280                    285  
 Asn Asn Glu Phe Asn Val Ile Ser Asn Asn Phe Tyr Phe Gly Phe Asp  
                     290                    295                    300  
 Ile Met Ile Pro Leu Lys Ile Arg Asn Ser Leu Phe Tyr Lys Ile Asn  
                     305                    310                    315                    320  
 Glu Asn Ile Asn His Tyr Phe Ser Ile Ser Thr Asn Tyr Tyr Thr Asn  
                     325                    330                    335

Tyr Asn Glu Thr Asn Ser Phe Thr Asn Gln Leu Ser Ser Gly Ile Met  
 340 345 350  
 Tyr Glu Phe Leu Pro Gln Lys Thr Phe Asn Pro Tyr Leu Ile Ser Gly  
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 Leu Phe Phe Ala Tyr Asn Gln Asn Asn Lys Asp Ile Lys Ser Ile Ser  
 370 375 380  
 Arg Pro Ile Arg Ile Lys Asn Ile Leu Gln Val Gly Ile Glu Asn Glu  
 385 390 395 400  
 Leu Gly Phe Leu Phe Lys Met Leu Lys Tyr Arg Asn Thr Glu Tyr Ile  
 405 410 415  
 Phe Lys Ile Tyr Ser Lys Val Asn Tyr Ile Pro Ile Ala Tyr Asn Leu  
 420 425 430  
 Asp Glu Lys Lys Leu Glu Lys His Ser Ile Asn Phe Asn Tyr Leu Gly  
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 Ile Gly Ile Val Val Lys  
 450  
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 <211> 436  
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 <213> Homo sapiens  
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 Phe Phe Asp Asp Leu Arg Ser Gly Ser Leu Ile Phe Thr Tyr Val Ser  
 35 40 45  
 Lys Tyr Asn Phe Ile Ile Asn Leu Glu Ala His Met Leu Thr Tyr Arg  
 50 55 60  
 Gly Tyr Lys Asp Ser Pro Lys Ser Leu Ile Ser Arg Thr Asp Leu Ile  
 65 70 75 80  
 Glu Ile Gly Phe Met Tyr Tyr Phe Pro Ile Leu Leu Leu Ile Asn Gly  
 85 90 95  
 Lys Asn Phe Gly Glu Ile Asp Leu Gly Ile Gly Val Lys Asn Leu Leu  
 100 105 110  
 Phe Gly Asp Trp Gly Gly His Leu Met Gln Ser Ile Ile His Leu Ile  
 115 120 125  
 Leu Asn Gln His Arg Pro Ile Pro Ser Ile Lys Ser Tyr Asp Ser Tyr  
 130 135 140  
 Asn Tyr Arg Gly Phe Leu Ser Phe Ala Leu Asn Tyr Ser Tyr Met Asn  
 145 150 155 160

Phe Leu Asn Leu Glu Asn Tyr Met Asp Leu Ser Tyr Phe Ala Asp Tyr  
 165 170 175  
 Phe Ile Lys Asn Ser Ile Gly Ile Thr Leu Lys Asn Glu Asn Ile Gly  
 180 185 190  
 Phe Asp Ile Lys Leu Tyr Ser Gln Ile Gln Asn Gln Ile Lys Ser Leu  
 195 200 205  
 Lys Thr Tyr Ser Lys Thr Gln Glu Ala Glu Thr Gly Ile Gly Ile Asn  
 210 215 220  
 Tyr Gln Phe Tyr Ser Lys Asn Phe Phe Ile Thr Asn Asn Leu Asn Ile  
 225 230 235 240  
 Lys Asn Phe Ser Thr Lys Glu Asn Phe Leu Ser Val Gly Gly Phe Gly  
 245 250 255  
 Ile Ile Ile Thr Pro Glu Glu Tyr Lys Lys Ile Ser Glu Ser Asn Asn  
 260 265 270  
 Glu Phe Asn Val Ile Ser Asn Asn Phe Tyr Phe Gly Phe Asp Ile Met  
 275 280 285  
 Ile Pro Leu Lys Ile Arg Asn Ser Leu Phe Tyr Lys Ile Asn Glu Asn  
 290 295 300  
 Ile Asn His Tyr Phe Ser Ile Ser Thr Asn Tyr Tyr Thr Asn Tyr Asn  
 305 310 315 320  
 Glu Thr Asn Ser Phe Thr Asn Gln Leu Ser Ser Gly Ile Met Tyr Glu  
 325 330 335  
 Phe Leu Pro Gln Lys Thr Phe Asn Pro Tyr Leu Ile Ser Gly Leu Phe  
 340 345 350  
 Phe Ala Tyr Asn Gln Asn Asn Lys Asp Ile Lys Ser Ile Ser Arg Pro  
 355 360 365  
 Ile Arg Ile Lys Asn Ile Leu Gln Val Gly Ile Glu Asn Glu Leu Gly  
 370 375 380  
 Phe Leu Phe Lys Met Leu Lys Tyr Arg Asn Thr Glu Tyr Ile Phe Lys  
 385 390 395 400  
 Ile Tyr Ser Lys Val Asn Tyr Ile Pro Ile Ala Tyr Asn Leu Asp Glu  
 405 410 415  
 Lys Lys Leu Glu Lys His Ser Ile Asn Phe Asn Tyr Leu Gly Ile Gly  
 420 425 430  
 Ile Val Val Lys  
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<210> 387  
 <211> 1365  
 <212> DNA  
 <213> Homo sapiens

<400> 387

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atttttacct	atgtttcaaa	atacaatttt	ataataaatt	tagaagcaca	catgttaacc	240
tataggggtt	ataaagactc	tccgaaatct	ttaattagta	gaacagactt	aattgaaata	300
ggcttcatgt	actat	aattttattg	ctaattaatg	gaaaaaattt	tgagagaaata	360
gacttgggaa	ttggagttaa	aaacttatta	tttggagact	ggggagggca	tttaatgcaa	420
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agctacaatt	atagaggatt	tttaagcttt	gctctaaatt	actcttacat	gaatttttta	540
aatttagaaa	atttatggga	cttatcttat	tttgcagatt	at	aaacagtatt	600
ggaattacct	taaaaaatga	aaatattgga	tttgatataa	aactttattc	ccaaattcaa	660
aatcaaatac	aaagcctcaa	aacatattca	aaaacacaag	aagcagaaac	aggaattgga	720
ataaattatc	aattttactc	taaaaat	ttcataacca	ataatttaaa	cattaaaaat	780
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gaaaacatca	accattactt	ttcaatatca	acaaattatt	acactaatta	taatagaaact	1020
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tcaaaagtta	actatattcc	tatagcttat	aacttagatg	aaaaaaaatt	agaaaaacat	1320
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<210> 388

<211> 1311

<212> DNA

<213> Homo sapiens

<400> 388

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gaaataggct	tcagtacta	ttttccaatt	ttattgctaa	ttaatggaaa	aaattttgga	300
gaaatagact	tggggaattgg	agttaaaaaac	ttattatttg	gagactgggg	agggcatttta	360
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tttttaaaatt	tagaaaatta	tatggactta	tcttattttg	cagattattt	tattaaaaaac	540
agtattggaa	ttaccttaaa	aaatgaaaat	attggatttg	atataaaaact	ttattcccaa	600
attcaaaatc	aaatcaaaaag	cctcaaaaaca	tattcaaaaa	cacaagaagc	agaaacagga	660
attggaataa	attatcaatt	ttactctaaa	aatttttttca	taaccaataa	tttaaacatt	720
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ttttactttg	gatttgatat	tatgatccca	ttaaaaataa	gaaattcatt	at	900
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gaaactaata	gctttacaaa	tcaattatca	tcaggcatca	tgtatgaatt	tttaccacaa	1020
aaaacattca	atccttacct	aatttcggga	ttattttttg	cctataatca	aaacaataaa	1080
gatatcaaaa	gcatctcaag	accaataaga	ataaaaaaca	ttcttcaagt	tggaattgaa	1140
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atatattcaa	aagttaacta	tattcctata	gcttataact	tagatgaaaa	aaaattagaa	1260
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<210> 389

<211> 336

<212> PRT

<213> Homo sapiens

<400> 389

Met Lys Ser Phe Leu Phe Trp Val Ile Leu Gly Thr Val Gly Ile Ser

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Glu Ile Ile Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys	35	40	45
Lys Thr Gln Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu	50	55	60
Gln Val Leu Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln	65	70	75
Gly Ile Lys Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln	85	90	95
Phe Gly Leu Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu	100	105	110
Lys Gln Gly Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser	115	120	125
Leu Ser Ser Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser	130	135	140
Glu Ile Lys Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala	145	150	155
Asn Lys Thr Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile	165	170	175
Phe Phe Ser Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala	180	185	190
Lys Asn Ile Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu	195	200	205
Ala Val Arg Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly	210	215	220
Asp Leu Gly Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu	225	230	235
Gly Ala Asp Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile	245	250	255
Ser Ser Pro Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr	260	265	270
Glu Lys Tyr Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro	275	280	285
Thr Ala Asp Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn	290	295	300
Val Gln Gln Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly	305	310	315
Lys Leu Asn Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys			

325

330

335

&lt;210&gt; 390

&lt;211&gt; 317

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 390

Gln Asn Thr Pro Val Ala Ile Ile Asn Leu Tyr Lys Asn Glu Ile Ile  
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Thr Lys Thr Gly Phe Asp Ser Lys Val Asp Ile Phe Lys Lys Thr Gln  
 20 25 30

Gly Arg Asp Leu Thr Asp Ala Glu Lys Lys Gln Val Leu Gln Val Leu  
 35 40 45

Ile Ala Asp Val Leu Phe Ser Gln Glu Ala Ser Lys Gln Gly Ile Lys  
 50 55 60

Ile Ser Asp Asp Glu Val Met Gln Thr Ile Arg Thr Gln Phe Gly Leu  
 65 70 75 80

Val Asn Phe Thr Asp Glu Gln Ile Lys Gln Met Ile Glu Lys Gln Gly  
 85 90 95

Thr Asn Trp Gly Glu Leu Leu Ser Ser Met Lys Arg Ser Leu Ser Ser  
 100 105 110

Gln Lys Leu Val Leu Lys Gln Ala Gln Pro Lys Phe Ser Glu Ile Lys  
 115 120 125

Thr Pro Ser Glu Lys Glu Ile Val Glu Tyr Tyr Glu Ala Asn Lys Thr  
 130 135 140

Lys Phe Val Asn Pro Asp Ile Ser Arg Val Ser His Ile Phe Phe Ser  
 145 150 155 160

Thr Lys Asp Lys Lys Arg Ser Asp Val Leu Asp Gln Ala Lys Asn Ile  
 165 170 175

Leu Ser Gln Ile Arg Ser Lys Lys Ile Thr Phe Glu Glu Ala Val Arg  
 180 185 190

Lys Tyr Ser Asn Asp Glu Ser Ser Lys Ala Lys Asn Gly Asp Leu Gly  
 195 200 205

Phe Leu Ser Arg Gly Asp Gln Asn Ala Gln Asn Leu Leu Gly Ala Asp  
 210 215 220

Phe Val Lys Glu Val Phe Asn Phe Asn Lys Gly Asp Ile Ser Ser Pro  
 225 230 235 240

Ile Ala Ser Lys Glu Gly Phe His Ile Val Lys Val Thr Glu Lys Tyr  
 245 250 255

Ala Gln Arg Phe Leu Gly Leu Asn Asp Lys Val Ser Pro Thr Ala Asp  
 260 265 270

Leu Ile Val Lys Asp Ala Ile Arg Asn Asn Met Ile Asn Val Gln Gln



275

280

285

Gln Gln Ile Val Val Gln Val Gln Gln Asp Met Tyr Gly Lys Leu Asn  
 290 295 300

Lys Ser Ala Asn Ile Gln Ile Leu Asp Ser Ser Leu Lys  
 305 310 315

&lt;210&gt; 391

&lt;211&gt; 1011

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 391

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gattctaagg ttgatataat taaaaagacc caaggtagag acttaactga tgctgagaaa 180
aagcaagttc tgcaagtttt aatagcagat gttcttttta gtcaagaggc ttcaaagcaa 240
ggaattaaaa tctcagatga tgaggttatg caaacaatta gaactcaatt tgggcttggt 300
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cttttgtctt caatgaaaag atctctgtct tctcaaaagc ttgtttttaa gcaagctcag 420
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&lt;210&gt; 392

&lt;211&gt; 954

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 392

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caaggaatta aaatctcaga tgatgaggtt atgcaaacaa ttagaactca atttgggctt 240
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gagcttttgt cttcaatgaa aagatctctg tcttctcaa agcttggttt aaagcaagct 360
cagcctaagt tttctgaaat taaaactcct agtgagaaaag aaattggtga gtattatgag 420
gctaataaaa ctaagtttgt aaatcccgat atttcaagag ttagtcatat ctttttttct 480
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aataacatga ttaatgttca acaacagcaa atgtgtgttc aagtacagca agatatgtat 900
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&lt;210&gt; 393

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

<400> 393

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Leu Phe Ser Asn Val Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr  
35 40 45  
Asp Ser Asn Ser Asn Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys  
50 55 60  
Arg Asp Thr Asn Ser Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln  
65 70 75 80  
Lys Ser Lys Lys Ile Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile  
85 90 95  
Asn Gln Lys Thr Ala Asn Asp Val Asn Phe Thr Lys Thr Ser Tyr Val  
100 105 110  
Lys Val Tyr Pro Asn Tyr Lys Asp Asp Asn Phe Gln Glu Ile Lys Asn  
115 120 125  
Ala Asn Lys Phe Pro Ala Lys Thr Glu Lys Thr His Met Leu Ile Gly  
130 135 140  
Pro Ile Leu Lys Asp Asn Leu Gly Ile Ile Ile Lys Met Leu Lys Thr  
145 150 155 160  
Lys Gly Tyr Thr Leu Ile Glu Tyr Ile Glu Asp Asn Asn  
165 170

<210> 394

<211> 80

<212> PRT

<213> Homo sapiens

<400> 394

Val Lys Asp Glu Lys Ser Asp Asn Lys Leu Glu Leu Phe Ser Asn Val  
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Glu Thr Lys Ile Lys Lys Asn Ser Lys Asn Tyr Asp Ser Asn Ser Asn  
20 25 30  
Ser Lys Lys Ile Lys Lys Glu Ser Ile Leu Lys Arg Asp Thr Asn Ser  
35 40 45  
Glu Lys Asn Ile Asn Ser Asn Ile Tyr Ile Gln Lys Ser Lys Lys Ile  
50 55 60  
Asn Tyr Pro Asn Arg Asn Leu Gly Asn Asn Ile Asn Gln Lys Thr Ala  
65 70 75 80

<210> 395

<211> 522

<212> DNA

<213> Homo sapiens

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atcaaaaaaa attctaaaaa ttacgactca aattcaaaca gcaaaaagat caaaaaagaa 180  
tcaattttta aaagagatac aaacagcgaa aaaaatataa attccaatat atacatacaa 240  
aaatcaaaaa aaattaatta cccaacaga aatttaggca ataatatcaa tcaaaaaact 300  
gcaaatgatg taaattttac aaaaactagt tatgttaaag tttatcccaa ctataaagac 360  
gataactttc aagaaattaa aaatgctaataa aaatttccag ctaaaaccga aaaaactcac 420  
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aagggatata ctttaataga atacatagag gacaataatt aa 522

<210> 396  
<211> 459  
<212> DNA  
<213> Homo sapiens

<400> 396  
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attttaaaaa gagatacaaa cagcgaaaaa aatataaatt ccaatatata catacaaaaa 180  
tcaaaaaaaa ttaattaccc caacagaaat ttaggcaata atatcaatca aaaaactgca 240  
aatgatgtaa attttaca aaactagttat gttaaagttt atcccaacta taaagacgat 300  
aaactttcaag aaattaaaaa tgctaataaaa tttccagcta aaaccgaaaa aactcacatg 360  
ctaactggcc caatatataa agataatcta ggaataataa ttaaaatgct aaaaacaaag 420  
ggatacactt taatagaata catagaggac aataattaa 459

<210> 397  
<211> 261  
<212> PRT  
<213> Homo sapiens

<400> 397  
Met Lys Asn Phe Lys Glu Val Ile Ile Ile Phe Asp Ser Gly Ile Gly  
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Tyr Val Tyr Val Ala Asp Asn Lys Asn Phe Pro Tyr Gly Glu Lys Ser  
35 40 45  
Pro Glu Tyr Leu Leu Glu Ala Val Leu Phe Leu Ile Glu Lys Leu Lys  
50 55 60  
Lys Ile Tyr Asn Ile Gly Ala Leu Val Leu Ala Cys Asn Thr Ile Ser  
65 70 75 80  
Val Ser Val Tyr Asn Lys Leu Asn Phe Val Phe Pro Val Val Tyr Thr  
85 90 95  
Leu Pro Asp Val Ser Ser Val Ser Asp Leu Val Leu Lys Arg Val Leu  
100 105 110  
Leu Ile Ala Thr Asn Thr Thr Leu Glu Ser Lys Phe Val Lys Asp Gln  
115 120 125  
Val Asn Ile His Asn Asp Leu Ile Val Lys Ala Ala Gly Glu Leu Val  
130 135 140  
Asn Phe Val Glu Tyr Gly Glu Asn Tyr Lys Lys Tyr Ala Leu Arg Cys



165

170

175

Glu Leu Val Val Lys Asn Leu Ile Arg Ser Met Asn Phe Ser Glu His  
180 185 190

Lys Gly Asn Tyr Tyr Lys Asn Asp Phe Asp Phe Val Asp Asp Glu Phe  
195 200 205

Tyr Leu Thr Glu Asn Lys Asn Leu Thr Phe Tyr Gln Asn Phe Cys Lys  
210 215 220

Lys Tyr Asn Leu Arg Phe Lys Gly Met Ile Val  
225 230 235

&lt;210&gt; 399

&lt;211&gt; 786

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 399

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tttaaataata ttaaagtag aataggggga tgccaatatg tttatgttgc cgataataaa 120
aatttccctt atggagaaaa aagtcctgaa tatcttctag aagcagtttt gtttttgatt 180
gagaagctta aaaaaatcta taatatttgt gcattagttt tggttgtaa tacaatttct 240
gttagtgtat acaataaatt aaattttgtt tttccagtag tctatacttt gccagatgta 300
agttcagttt cagatcttgt tttaaaaaga gttcttttga ttgcaacaaa tactactctt 360
gaaagcaaat ttgttaagga tcaagtaa atacataatg atttgattgt aaaagctgct 420
ggagagcttg ttaattttgt tgaatatgga gagaattaca aaaaatatgc tcttagatgt 480
ttagaagctt taaaatttga agttgtaaat actggtagag aaattgtttt tcttgatgc 540
acgcattatt tgcattctaa ggtaattgata gaagattttt taaaaattcc tgtttatgag 600
aatcgtgaat tagtggttaa aaatcttatt agatcaatga atttttctga acacaaaggt 660
aattattata agaattgatt tgattttgta gatgatgagt tttatttgac cgaaaataaa 720
aatttgactt tttatcaaaa tttttgcaaa aaatataatc ttcgctttaa gggaatgata 780
gtttga 786

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&lt;210&gt; 400

&lt;211&gt; 708

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 400

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aaaagtcctg aatattcttct agaagcagtt ttgtttttga ttgagaagct taaaaaaatc 120
tataatattg gtgcattagt tttggcttgt aatacaattt ctgttagtgt atacaataaa 180
ttaaattttg tttttccagt agtctatact ttgccagatg taagttcagt ttcagatctt 240
gttttaaaaa gagttctttt gattgcaaca aatactactc ttgaaagcaa atttgtaag 300
gatcaagtaa atatacataa tgatttgatt gtaaaagctg ctggagagct tgtaatttt 360
gttgaatatg gagagaatta caaaaaatat gctcttagat gtttagaagc tttaaaattt 420
gaagttgtaa atactggtag agaaattgtt tttcttggat gcacgcatta tttgcatctt 480
aaggtaatga tagaagattt tttaaaaatt cctgtttatg agaatcgtga attagtggta 540
aaaaatctta ttgatcaat gaatttttct gaacacaaaag gtaattatta taagaatgat 600
tttgattttg tagatgatga gttttatttg accgaaaata aaaatttgac tttttatcaa 660
aatttttgca aaaaatataa tcttcgcttt aagggaatga tagtttga 708

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&lt;210&gt; 401

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 401

Met Ile Arg Leu Lys Val Leu Ile Leu Cys Leu Phe Gly Ile Phe Val  
 1 5 10 15  
 Leu Asn Gly Phe Ala Asp Thr Asn Phe Glu Phe Asn Phe Gly Gly Gly  
 20 25 30  
 Val Ala Phe Pro Val Ser Pro Phe Ser Ser Phe Tyr Asn Glu Ala Leu  
 35 40 45  
 Glu Ile Asn Ala Lys Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro  
 50 55 60  
 Ile Glu Lys Glu Glu Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile  
 65 70 75 80  
 Ala Lys Ala Gly Ile Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys  
 85 90 95  
 Phe Asp Asp Phe Val Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn  
 100 105 110  
 Leu Leu Lys Ala Ile Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe  
 115 120 125  
 Ser Phe Ile Met Ala Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe  
 130 135 140  
 Phe Val Leu Ala Leu Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala  
 145 150 155 160  
 Thr Ser Ser Ala Asp Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp  
 165 170 175  
 Asp Ile Gly Ala Arg Leu Ser Phe Ser Phe Leu Ile Leu Glu Gly Tyr  
 180 185 190  
 Tyr Val Trp Asn Ile Lys Asn Pro Lys Phe Ser Asp Phe Lys Phe Gly  
 195 200 205  
 Ile Gly Phe Glu Phe Gly Ile Val  
 210 215

<210> 402  
 <211> 195  
 <212> PRT  
 <213> Homo sapiens

<400> 402  
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 20 25 30  
 Leu Lys Gln Asn Leu Pro Ser Asp Leu Ser Pro Ile Glu Lys Glu Glu  
 35 40 45  
 Ile Val Gln Asn Phe Ser Asp Leu Ala Asn Ile Ala Lys Ala Gly Ile  
 50 55 60

Arg Tyr Gly Thr Tyr Ala Gln Phe Gly Ala Lys Phe Asp Asp Phe Val  
 65 70 75 80  
 Ser Ile Gly Phe Glu Leu Leu Phe Asn Ile Asn Leu Leu Lys Ala Ile  
 85 90 95  
 Lys Arg Ser Asp Gly Thr Ala Asn Glu Asn Phe Ser Phe Ile Met Ala  
 100 105 110  
 Ile Thr Pro Arg Phe Tyr Thr Lys Leu Asp Phe Phe Val Leu Ala Leu  
 115 120 125  
 Ala Phe Phe Thr Gly Pro Lys Ile Asn Ile Ala Thr Ser Ser Ala Asp  
 130 135 140  
 Ser Val Leu Ala Glu Leu Gly Thr Met Gly Trp Asp Ile Gly Ala Arg  
 145 150 155 160  
 Leu Ser Phe Ser Phe Leu Ile Leu Glu Gly Tyr Tyr Val Trp Asn Ile  
 165 170 175  
 Lys Asn Pro Lys Phe Ser Asp Phe Lys Phe Gly Ile Gly Phe Glu Phe  
 180 185 190  
 Gly Ile Val  
 195

<210> 403  
 <211> 651  
 <212> DNA  
 <213> Homo sapiens

<400> 403  
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 gcagatacta attttgaatt caattttggt ggtggggttg cttttcctgt tagtcccttt 120  
 tcaagctttt acaatgaggc tttagagatt aatgcaaagc ttaagcaaaa tttgccttca 180  
 gatttatccc caatagaaaa agaagagata gtccaaaatt tttccgattt agccaatatt 240  
 gctaaagctg gaataagata tggaacttac gctcaatttg gcgctaaatt tgatgatttt 300  
 gtttctattg gatttgagct tttgtttaac attaacttct ttaaagcaat aaagcggttcg 360  
 gatggaaactg caaatgaaaa tttctcgttt attatggcaa taacaccaag attttataca 420  
 aaattagatt tttttgtttt agcttttagcg tttttcacag gtcctaagat caatatagcg 480  
 acttcttctg cggattctgt ttttagcagaa ctgggaacaa tgggctggga tattgggtgct 540  
 agactttcat tttctttttt aattcttgaa gggactatg tttggaatat taaaaacctt 600  
 aaattttctg atttcaagtt tggaaataggt ttgaatttg gaattgtgta g 651

<210> 404  
 <211> 588  
 <212> DNA  
 <213> Homo sapiens

<400> 404  
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 ttatccccaa tagaaaaaga agagatagtc caaaattttt ccgatttagc caatattgct 180  
 aaagctggaa taagatatgg aacttacgct caatttggcg cttaaattga tgattttggt 240  
 tctattggat ttgagctttt gtttaacatt aatcttctta aagcaataaa gcgttcggat 300  
 ggaactgcaa atgaaaattt ctcgtttatt atggcaataa caccaagatt ttatacaaaa 360  
 ttagattttt ttgttttagc ttttagcggtt ttcacaggct ctaagatcaa tatagcgact 420  
 tcttctgctg attctgtttt agcagaactg ggaacaatgg gctgggatat tgggtgctaga 480  
 ctttcatttt cttttttaatt tcttgaaggg tactatggtt ggaatattaa aaaccctaaa 540

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588

<210> 405

<211> 232

<212> PRT

<213> Homo sapiens

<400> 405

Met Ile Asp Leu Thr Gln Glu Lys Gln Glu Ile Leu Ile Lys Asn Lys  
1 5 10 15

Phe Leu Ala Lys Val Phe Gly Leu Met Ser Ile Gly Leu Leu Ile Ser  
20 25 30

Ala Val Phe Ala Tyr Ala Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile  
35 40 45

Ile Phe Ser Asn Ser Met Ser Phe Met Ala Met Ile Leu Ile Gln Phe  
50 55 60

Gly Leu Val Tyr Ala Ile Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn  
65 70 75 80

Thr Ala Thr Ala Leu Phe Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr  
85 90 95

Leu Ser Ser Ile Phe Met Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr  
100 105 110

Phe Gly Ile Thr Ala Gly Thr Phe Leu Gly Met Ser Val Tyr Gly Tyr  
115 120 125

Thr Thr Thr Thr Asp Leu Thr Lys Met Gly Ser Tyr Leu Ile Met Gly  
130 135 140

Leu Trp Gly Ile Ile Ile Ala Ser Leu Val Asn Met Phe Phe Arg Ser  
145 150 155 160

Ser Gly Leu Asn Phe Leu Ile Ser Ile Leu Gly Val Val Ile Phe Thr  
165 170 175

Gly Leu Thr Ala Tyr Asp Val Gln Asn Ile Ser Lys Met Asp Lys Met  
180 185 190

Leu Gln Asp Asp Thr Glu Ile Lys Asn Arg Met Ala Val Val Ala Ser  
195 200 205

Leu Lys Leu Tyr Leu Asp Phe Ile Asn Leu Phe Leu Tyr Leu Leu Arg  
210 215 220

Phe Leu Gly Gln Arg Arg Asn Asp  
225 230

<210> 406

<211> 194

<212> PRT

<213> Homo sapiens

<400> 406

Thr Ser Glu Asn Gln Thr Ile Lys Ala Ile Ile Phe Ser Asn Ser Met



1	5	10	15
Ser Phe Met	Ala Met Ile Leu Ile Gln Phe Gly Leu Val Tyr Ala Ile		
	20	25	30
Ser Gly Ala Leu Asn Lys Ile Ser Ser Asn Thr Ala Thr Ala Leu Phe			
	35	40	45
Leu Leu Tyr Ser Ala Leu Thr Gly Val Thr Leu Ser Ser Ile Phe Met			
	50	55	60
Ile Tyr Thr Gln Gly Ser Ile Val Phe Thr Phe Gly Ile Thr Ala Gly			
	65	70	75
Thr Phe Leu Gly Met Ser Val Tyr Gly Tyr Thr Thr Thr Thr Asp Leu			
	85	90	95
Thr Lys Met Gly Ser Tyr Leu Ile Met Gly Leu Trp Gly Ile Ile Ile			
	100	105	110
Ala Ser Leu Val Asn Met Phe Phe Arg Ser Ser Gly Leu Asn Phe Leu			
	115	120	125
Ile Ser Ile Leu Gly Val Val Ile Phe Thr Gly Leu Thr Ala Tyr Asp			
	130	135	140
Val Gln Asn Ile Ser Lys Met Asp Lys Met Leu Gln Asp Asp Thr Glu			
	145	150	155
Ile Lys Asn Arg Met Ala Val Val Ala Ser Leu Lys Leu Tyr Leu Asp			
	165	170	175
Phe Ile Asn Leu Phe Leu Tyr Leu Leu Arg Phe Leu Gly Gln Arg Arg			
	180	185	190

Asn Asp

<210> 407

<211> 699

<212> DNA

<213> Homo sapiens

<400> 407

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gaaaatcaaa	caatcaaagc	aataatattc	tcaaattcaa	tgtcatttat	ggctatgata	180
cttatacaat	ttggacttgt	atatgcaata	agtggtgctc	ttaataaaaat	atcaagcaat	240
actgcaacag	ctcttttctt	gctctactca	gcactaacag	gagtaacatt	atcttctata	300
tttatgattt	acacacaagg	atcaatagta	ttcacattcg	gaattactgc	tggaacattt	360
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ttaataatgg	gcttatgggg	aatcattatt	gcattctctg	ttaatatggt	ttttagaagc	480
tcagggtcta	atttccttat	atctattttg	ggcgtagtta	tattttacagg	cttaacagct	540
tatgatgttc	aaaatatttc	taaaatggac	aaaatgctac	aagacgacac	tgaaataaaa	600
aacagaatgg	cggttgtagc	ctcacttaaa	ctttattttag	attttataaa	tttattctta	660
tatcttctaa	gatttttggg	ccaaagaaga	aacgattaa			699

<210> 408

<211> 585

<212> DNA

<213> Homo sapiens

<400> 408

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agcaataactg caacagctct tttcttgctc tactcagcac taacaggagt aacattatct 180
tctatattta tgatttacac acaaggatca atagtattca cattcggaat tactgctgga 240
acatttcttg gaatgtctgt ttatggatac actacaacaa cagatctaac aaaaatggga 300
agctatttaa taatgggctt atggggaatc attattgcat ctcttgtaa tatgtttttt 360
agaagctcag gtcttaattt ccttatatct attttgggcy tagttatatt tacaggctta 420
acagcttatg atgttcaaaa tatttctaaa atggacaaaa tgctacaaga cgacactgaa 480
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<210> 409

<211> 214

<212> PRT

<213> Homo sapiens

<400> 409

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Ser Ser Leu Leu Phe Gly Gln Ser Pro Pro Lys Glu Lys Glu Asp Ser
                20                      25                      30

Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile Leu Asn Thr
  35                      40                      45

Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala Arg Thr Ile
  50                      55                      60

Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg Ala Glu Lys
  65                      70                      75                      80

Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile Arg Ile Ile
                85                      90                      95

Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr Asp Asn Ala
  100                      105                      110

Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys Gly Ala Arg
  115                      120                      125

Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr Glu Leu Lys
  130                      135                      140

Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu Arg Phe Ser
  145                      150                      155                      160

Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser Arg Ile Asn
                165                      170                      175

Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys Ile Leu Thr
  180                      185                      190

Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu Glu Leu Lys
  195                      200                      205

Lys Ser Asn Asn Lys Pro
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210

<210> 410

<211> 185

<212> PRT

<213> Homo sapiens

<400> 410

Glu Asp Ser Leu Leu Leu Tyr Lys Glu Gly Lys Phe Lys Glu Ala Ile  
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Leu Asn Thr Leu Glu Glu Ile Arg Leu Asn Pro Ser Asn Leu Asp Ala  
20 25 30

Arg Thr Ile Leu Ile Trp Ser Leu Ile Ala Ile Gly Glu Tyr Lys Arg  
35 40 45

Ala Glu Lys Glu Ala Ile Ile Gly Leu Gly Ile Lys Lys His Asp Ile  
50 55 60

Arg Ile Ile Gln Ala Leu Gly Glu Ala Tyr Phe Phe Gln Lys Asn Tyr  
65 70 75 80

Asp Asn Ala Leu Lys Tyr Phe Gln Glu Tyr Ile Ser Leu Asp Ser Lys  
85 90 95

Gly Ala Arg Ile Ile Lys Val Tyr Asn Leu Ile Ala Asp Ser Phe Tyr  
100 105 110

Glu Leu Lys Arg Tyr Asn Glu Ala Asp Phe Ala Tyr Glu His Ala Leu  
115 120 125

Arg Phe Ser Pro Asn Asn Gln Asn Leu Leu Ile Lys Leu Ala Arg Ser  
130 135 140

Arg Ile Asn Ala Lys Asn Lys Ile Leu Ala Glu Glu Ala Leu Ile Lys  
145 150 155 160

Ile Leu Thr Ile Ser Pro Asn Asn Leu Glu Ala Lys Asn Leu Leu Glu  
165 170 175

Glu Leu Lys Lys Ser Asn Asn Lys Pro  
180 185

<210> 411

<211> 645

<212> DNA

<213> Homo sapiens

<400> 411

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tttggacaat caccgcctaa agaaaaagaa gactctcttc ttctatataa agaaggaaaa 120  
tttaaagaag ctatttttaa caggttagaa gaaattcgac taaatcctag taacttagat 180  
gctaggacaa tattgatatg gagcttaata gccataggag aatacaagag agctgaaaaa 240  
gaggcgatta taggacttgg cattaaaaaa catgacataa gaattattca agcactagga 300  
gaagcttatt tctttcaaaa aaattatgac aatgcattaa aatactttca agaatacatt 360  
agccttgatt ctaaaggagc aagaataata aaagtttata atttaattgc agattctttt 420  
tatgagctaa aaagatataa tgaagccgat ttgcatatgc aacatgcatt acgtttttct 480  
cctaataacc aaaatctatt aataaaaatta gcaagatcaa gaataaatgc aaaaaataaa 540  
atattagcag aagaagcact aattaaaatt cttacaatct ctccataata tctagaggca 600

aaaaattttac tagaagaatt aaaaaaaagc aacaacaaac cttga

645

<210> 412

<211> 558

<212> DNA

<213> Homo sapiens

<400> 412

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gaagaaattc gactaaatcc tagtaactta gatgctagga caatattgat atggagctta 120  
atagccatag gagaatacaa gagagctgaa aaagaggcga ttataggact tggcattaaa 180  
aaacatgaca taagaattat tcaagcacta ggagaagctt atttctttca aaaaaattat 240  
gacaatgcat taaaatactt tcaagaatac attagccttg attctaaagg agcaagaata 300  
ataaaaagttt ataattttaat tgcagattct ttttatgagc taaaaagata taatgaagcc 360  
gattttgcat acgaacatgc attacgtttt tctcctaata accaaaatct attaataaaa 420  
ttagcaagat caagaataaa tgcaaaaaat aaaatattag cagaagaagc actaattaaa 480  
attcttaciaa tctctcctaa taatctagag gcaaaaaatt tactagaaga attaaaaaaa 540  
agcaacaaca aaccttga 558

<210> 413

<211> 1494

<212> PRT

<213> Homo sapiens

<400> 413

Met Lys Lys Ala Asn Phe Leu Ser Thr Asn Phe Leu Ile Leu Leu Leu  
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20 25 30  
Lys Leu Val Asp Gln Phe Phe Pro Phe Tyr Tyr Lys Asn Asn Lys Gly  
35 40 45  
Glu Tyr Glu Gly Leu Ile Phe Ser Ile Leu Asp Lys Trp Ala Lys Asp  
50 55 60  
Asn Asn Ala Asp Ile Met Val Glu His Ile Asp Asn Leu Asn Glu Ser  
65 70 75 80  
Glu Ile Glu Asp Glu Ala Ile Tyr Leu Gly Leu Thr Tyr Asn Val Lys  
85 90 95  
Leu Asn Asp Phe Phe Tyr Phe Lys Ser Glu Leu Ala Arg Ser Ile Ser  
100 105 110  
Ile Leu Phe Phe Lys Asn Ser Asn Lys Lys Tyr Lys Asn Thr His Ser  
115 120 125  
Thr Phe Leu Ser Asn Phe Asn Ile Gly Val Ile Lys Asn Thr Ile Tyr  
130 135 140  
Glu Asp Ile Leu Arg Leu Lys Asn Val Asn Thr Ile Phe Leu Ala Asp  
145 150 155 160  
Asn Ser Gln Glu Leu Val Leu Ala Leu Lys Asn Asp Lys Val Asp Tyr  
165 170 175  
Ile Tyr Gly Asp Cys Lys Thr Leu His Tyr Ile Ala Asn Asn Phe Leu  
180 185 190

Ser Glu Asp Leu Val Ile Phe Thr Gly Asp Val Phe Tyr Ser Ile Lys  
 195 200 205  
 Asn Arg Val Ala Ile Ser Arg Asn Ala Pro Glu Ile Val Lys Asn Leu  
 210 215 220  
 Asn Leu Asp Leu Phe Ser Tyr Leu Met Lys Met Pro Glu Glu Leu Val  
 225 230 235 240  
 Phe Ser Phe Leu Asp Ser Asn Ala Lys Gly Ser Phe Val Asp Val Gly  
 245 250 255  
 Leu Tyr Asn Asp Tyr Pro Pro Leu Ser Phe Ile Asn Ser Gln Gly Lys  
 260 265 270  
 Leu Ser Gly Ile Leu Val Asp Leu Trp Asn Leu Leu Ser Arg Gln His  
 275 280 285  
 Ile Phe Lys Pro Ile Phe Lys Gly Phe Ser Lys Glu Asp Ile Lys Lys  
 290 295 300  
 Ser Leu Asp Gly Lys Ser Val Gly Ile Phe Gly Gly Ile Ile Ser Asn  
 305 310 315 320  
 Asp Ser Val Leu Glu Asn Val Asn Tyr Val Val Ser Lys Pro Ile Tyr  
 325 330 335  
 Pro Leu Asn Phe Lys Phe Tyr Ser Lys Asp Leu Ser Asn Asp Ala Gly  
 340 345 350  
 Pro Ile Asn Ser Gln Phe Ile Asp Phe Asn Phe Asn Asn Ile Gln Leu  
 355 360 365  
 Asn Lys Asn Lys Asp Ile Val Asn Asn Phe Ile Asp Ile Val Asn Asn  
 370 375 380  
 Ser Tyr Gly Phe Ile Glu Asn Ser Ile Thr Thr Lys Tyr Leu Leu Lys  
 385 390 395 400  
 Leu Asn Gly Tyr Asn Gly Arg Leu Lys Ser Tyr Asp Ser Ile Phe Asn  
 405 410 415  
 Lys Asn Arg Phe Leu Val Leu Ala Ile Asp Asn Arg Ile Tyr Lys Val  
 420 425 430  
 Ile Lys Tyr Ile Leu Asn Ser Ile Phe Asp Asp Ile Ser Phe Glu Ser  
 435 440 445  
 Leu Leu Gln Ile Asp Lys Asn Trp Leu Asp Lys Glu Glu Ile Asn Ser  
 450 455 460  
 Ser Arg Ile Asn Ser Tyr Lys Ile Met Asn Lys Val Lys Phe Asn Ile  
 465 470 475 480  
 Glu Glu Lys Ile Trp Leu Ser Lys Asn Asn Lys Leu Asn Leu Ala Val  
 485 490 495  
 Lys Asn Trp Tyr Pro Ile Asp Tyr Val Glu Ala Asn Asn Tyr Lys Gly  
 500 505 510

Ile Asn Gln Phe Leu Leu Asp Lys Ile Arg Met Phe Ser Gly Leu Arg  
 515 520 525  
 Phe Asn Ile Ile Lys Val His Ser Ser Leu Asp Leu Lys Lys Leu Ile  
 530 535 540  
 Lys Ser Gly Lys Ile Asp Met Leu Asn Thr Asn Ala Thr Asp Ser Asn  
 545 550 555 560  
 Leu Asp Asn Val Phe Asn Ile Lys Leu Asn Ser Arg Ile Pro Leu Tyr  
 565 570 575  
 Ile Phe Ser Asn Lys Lys Arg Val Leu Pro Ser Arg Ser Leu Glu Lys  
 580 585 590  
 Phe Ala Ile Leu Asp Phe Leu Tyr Ser Lys Asn Leu Ala Ser Asn Ile  
 595 600 605  
 Lys Ser Lys Leu Ile Leu Val Ser Ser Phe Asn Glu Ala Leu Leu Leu  
 610 615 620  
 Leu Tyr Lys Gly Lys Val Asp Gly Ile Ile Ser Asp Glu Tyr Thr Ala  
 625 630 635 640  
 Ala Ala Val Phe Glu Glu Leu Asn Ile Asp Asp Val Glu Lys Ile Pro  
 645 650 655  
 Thr Phe Arg Asp Leu Ala Phe Asp Leu Ser Leu Ala Ile Tyr Asn Gln  
 660 665 670  
 Asp Tyr Ile Leu Lys Glu Ile Ile Gln Lys Val Val Met Arg Ser Asn  
 675 680 685  
 Val Asp Ser Gln Met Tyr Leu Asn Asp Trp Lys Phe Asp Ile Tyr Tyr  
 690 695 700  
 Lys Ser Arg Ser Ile Arg Phe Lys Asn Phe Lys Phe Leu Val Ile Thr  
 705 710 715 720  
 Phe Ile Ile Phe Tyr Phe Thr Phe Leu Gly Phe Val Ile Ile Phe Met  
 725 730 735  
 Phe Arg Leu Ser Phe Glu Gln Lys Arg Arg Tyr Ser Phe Val Met Asn  
 740 745 750  
 Glu Lys Lys Ile Ala Glu Ala Ala Asn Ala Ala Lys Thr Ile Phe Ile  
 755 760 765  
 Ala Asn Val Ser His Asp Ile Arg Thr Pro Ile Asn Gly Ile Met Ala  
 770 775 780  
 Ala Thr Glu Leu Leu Asp Thr Thr Ile Leu Thr Asp Val Gln Lys Asp  
 785 790 795 800  
 Tyr Val Arg Met Ile Asn Tyr Ser Ser Asp Ser Leu Leu Ser Leu Ile  
 805 810 815  
 Asp Asp Ile Leu Tyr Leu Ser Lys Ile Asp Val Asn Glu Leu Tyr Val  
 820 825 830

Glu Ser Gln Glu Ile Asp Leu Glu Ser Glu Met Glu Met Val Leu Lys  
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<210> 417

<211> 343

<212> PRT

<213> Homo sapiens

<400> 417

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Phe Thr Ser Cys Asn Gln Lys Gln Ser Glu Ile Gln Asn Leu Thr His  
20 25 30

Leu Leu Lys Ser Ser Asn Lys Asn Arg Leu Asp Lys Phe Leu Ile Ile  
35 40 45

Asp Arg Val Val Asn Ile Tyr Ile Ala Asn Lys Asn Tyr Glu Asp Ala  
50 55 60

Leu Glu Ile Val Asn Asn Gly Ile Ile Asp Asp Glu Ser Arg Glu Tyr  
65 70 75 80

Tyr Pro Leu Tyr Leu Tyr Leu Met Gly Asn Ile Tyr Asp Ser Met Gly  
85 90 95

Glu Asp Phe Val Ala Phe Asn Ile Tyr Lys Arg Val Val Asp Asn Phe



100					105					110					
Asp	Asp	Tyr	Val	Tyr	Glu	Asn	His	Ser	Met	Lys	Thr	Arg	Val	Ala	Lys
		115					120					125			
Lys	Ile	Val	Asn	Leu	Asn	Ile	Asp	Ser	Ile	Asp	Lys	Ile	Asn	Tyr	Tyr
	130					135					140				
Lys	Phe	Ile	Leu	Asn	Met	Gly	Ile	Asp	Asn	Leu	Asn	Asn	Glu	Glu	Lys
145					150					155					160
Gly	Asn	Tyr	Phe	Tyr	Asn	Leu	Ala	Leu	Ser	Leu	Glu	Asp	Val	Gln	Asp
			165						170					175	
Tyr	Asp	Glu	Ser	Tyr	Phe	Tyr	Tyr	Lys	Lys	Phe	Leu	Ser	Ile	Pro	Arg
			180					185					190		
Ala	His	Leu	Lys	Ile	Asp	Ser	Arg	Asp	Tyr	Phe	Asn	Val	Val	Thr	Lys
		195					200					205			
Ile	Asn	Tyr	Phe	Asn	Asn	Pro	Glu	Phe	Val	Val	Tyr	Arg	Asn	Leu	Gly
	210					215					220				
Asp	Leu	Ile	Gln	Asp	Val	Lys	Asn	Phe	Val	Leu	Ser	Gly	Asn	Thr	Ser
225					230					235					240
Lys	Leu	Leu	Asn	Ile	Arg	Asp	Lys	Asn	Asn	Phe	Phe	Ile	Gln	Ser	Trp
			245						250					255	
Asp	Gln	Lys	Gly	Gly	Lys	Ser	Asn	Ser	Ile	Asn	Thr	Asn	Ser	Phe	Leu
			260					265					270		
Thr	Thr	Met	Ile	Arg	Leu	Gly	Gly	Arg	Arg	Lys	Asn	Gly	Ile	Gln	Phe
		275					280					285			
Ala	Lys	His	Leu	Glu	Ala	Asp	Ser	Ser	Asp	Asp	Ile	Ser	Tyr	Leu	Glu
	290					295					300				
Ser	Arg	Gly	Trp	Asp	His	Ile	His	Glu	Trp	Tyr	Phe	Val	Phe	Lys	Arg
305					310					315					320
Ile	Val	Tyr	Pro	Lys	Asp	Pro	Glu	Ile	Asn	Asn	Gly	Trp	Thr	Trp	Ile
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Gly	Val	Tyr	Leu	Gly	Lys	Lys									
			340												

<210> 418

<211> 324

<212> PRT

<213> Homo sapiens

<400> 418

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Ser	Ser	Asn	Lys	Asn	Arg	Leu	Asp	Lys	Phe	Leu	Ile	Ile	Asp	Arg	Val
			20					25					30		

Val	Asn	Ile	Tyr	Ile	Ala	Asn	Lys	Asn	Tyr	Glu	Asp	Ala	Leu	Glu	Ile
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35					40					45					
Val	Asn	Asn	Gly	Ile	Ile	Asp	Asp	Glu	Ser	Arg	Glu	Tyr	Tyr	Pro	Leu
	50					55					60				
Tyr	Leu	Tyr	Leu	Met	Gly	Asn	Ile	Tyr	Asp	Ser	Met	Gly	Glu	Asp	Phe
	65				70					75					80
Val	Ala	Phe	Asn	Ile	Tyr	Lys	Arg	Val	Val	Asp	Asn	Phe	Asp	Asp	Tyr
				85					90					95	
Val	Tyr	Glu	Asn	His	Ser	Met	Lys	Thr	Arg	Val	Ala	Lys	Lys	Ile	Val
			100					105					110		
Asn	Leu	Asn	Ile	Asp	Ser	Ile	Asp	Lys	Ile	Asn	Tyr	Tyr	Lys	Phe	Ile
		115					120					125			
Leu	Asn	Met	Gly	Ile	Asp	Asn	Leu	Asn	Asn	Glu	Glu	Lys	Gly	Asn	Tyr
	130					135					140				
Phe	Tyr	Asn	Leu	Ala	Leu	Ser	Leu	Glu	Asp	Val	Gln	Asp	Tyr	Asp	Glu
	145				150					155					160
Ser	Tyr	Phe	Tyr	Tyr	Lys	Lys	Phe	Leu	Ser	Ile	Pro	Arg	Ala	His	Leu
			165						170					175	
Lys	Ile	Asp	Ser	Arg	Asp	Tyr	Phe	Asn	Val	Val	Thr	Lys	Ile	Asn	Tyr
			180					185					190		
Phe	Asn	Asn	Pro	Glu	Phe	Val	Val	Tyr	Arg	Asn	Leu	Gly	Asp	Leu	Ile
		195					200					205			
Gln	Asp	Val	Lys	Asn	Phe	Val	Leu	Ser	Gly	Asn	Thr	Ser	Lys	Leu	Leu
	210					215					220				
Asn	Ile	Arg	Asp	Lys	Asn	Asn	Phe	Phe	Ile	Gln	Ser	Trp	Asp	Gln	Lys
	225				230					235					240
Gly	Gly	Lys	Ser	Asn	Ser	Ile	Asn	Thr	Asn	Ser	Phe	Leu	Thr	Thr	Met
			245					250					255		
Ile	Arg	Leu	Gly	Gly	Arg	Arg	Lys	Asn	Gly	Ile	Gln	Phe	Ala	Lys	His
		260						265					270		
Leu	Glu	Ala	Asp	Ser	Ser	Asp	Asp	Ile	Ser	Tyr	Leu	Glu	Ser	Arg	Gly
		275					280					285			
Trp	Asp	His	Ile	His	Glu	Trp	Tyr	Phe	Val	Phe	Lys	Arg	Ile	Val	Tyr
	290					295					300				
Pro	Lys	Asp	Pro	Glu	Ile	Asn	Asn	Gly	Trp	Thr	Trp	Ile	Gly	Val	Tyr
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Leu	Gly	Lys	Lys												

<210> 419  
 <211> 1032  
 <212> DNA  
 <213> Homo sapiens

<400> 419

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agattagata aatttcttat tattgataga gttgttaaca tatatattgc aaataaaaaat 180
tatgaagatg ctttagaaat tgtaaataat ggaattattg atgatgaatc tagagaatat 240
tatcctttgt atctttatTT aatgggcaat atttatgatt ccatgggaga agatttttga 300
gcttttaata tttaacaagcg tgttggtgat aattttgatg attatgttta tgaaaacccat 360
tcaatgaaaa caagggttgc taaaaagatt gtcaatttaa atattgattc aatcgataaa 420
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ggtaattatt ttataatct tgcgctaagt ttggaagatg ttcaagatta cgatgaatct 540
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ggtaaaaaat aa 1032
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<210> 420

<211> 975

<212> DNA

<213> Homo sapiens

<400> 420

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aattatgaag atgcttttaga aattgtaaat aatggaatta ttgatgatga atctagagaa 180
tattatcctt tgtatcttta tttaatgggc aatatttatg attccatggg agaagatttt 240
gtagctttta atattttaca gcggtgttgt gataattttg atgattatgt ttatgaaaaa 300
cattcaatga aaacaagggg tgctaaaaag attgtcaatt taaatattga ttcaatcgat 360
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aagggttaatt atttttataa tcttgcgcta agtttgaag atgttcaaga ttacgatgaa 480
tcttattttt attataaaaa atttctttca attccaaggg cacattttaa aatagattct 540
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tatagaaatt taggagattt aatccaggat gttaaaaaatt ttgttctttc tggtaatact 660
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<210> 421

<211> 339

<212> PRT

<213> Homo sapiens

<400> 421

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      20              25              30

Leu Ile Ile Asp Gly Thr Phe Asp Asp Lys Ser Phe Asn Glu Ser Ala
      35              40              45
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Leu Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val  
 50 55 60  
 Leu Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu  
 65 70 75 80  
 Lys Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser  
 85 90 95  
 Asp Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala  
 100 105 110  
 Ile Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val  
 115 120 125  
 Gly Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile  
 130 135 140  
 Ala Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile  
 145 150 155 160  
 Glu Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala  
 165 170 175  
 Lys Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser  
 180 185 190  
 Phe Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser  
 195 200 205  
 Asp Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly  
 210 215 220  
 Ala Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly  
 225 230 235 240  
 Val Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser  
 245 250 255  
 Thr Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His  
 260 265 270  
 Leu Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu  
 275 280 285  
 Lys Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe  
 290 295 300  
 Glu Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys  
 305 310 315 320  
 Glu Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys  
 325 330 335  
 Glu Phe Ile

<210> 422  
 <211> 322  
 <212> PRT

<213> Homo sapiens

<400> 422

Cys Ser Gly Lys Gly Ser Leu Gly Ser Glu Ile Pro Lys Val Ser Leu  
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Asn Gly Val Lys Lys Val Lys Glu Glu Phe Lys Ile Glu Leu Val Leu  
35 40 45  
Lys Glu Ser Ser Ser Asn Ser Tyr Leu Ser Asp Leu Glu Gly Leu Lys  
50 55 60  
Asp Ala Gly Ser Asp Leu Ile Trp Leu Ile Gly Tyr Arg Phe Ser Asp  
65 70 75 80  
Val Ala Lys Val Ala Ala Leu Gln Asn Pro Asp Met Lys Tyr Ala Ile  
85 90 95  
Ile Asp Pro Ile Tyr Ser Asn Asp Pro Ile Pro Ala Asn Leu Val Gly  
100 105 110  
Met Thr Phe Arg Ala Gln Glu Gly Ala Phe Leu Thr Gly Tyr Ile Ala  
115 120 125  
Ala Lys Leu Ser Lys Thr Gly Lys Ile Gly Phe Leu Gly Gly Ile Glu  
130 135 140  
Gly Glu Ile Val Asp Ala Phe Arg Tyr Gly Tyr Glu Ala Gly Ala Lys  
145 150 155 160  
Tyr Ala Asn Lys Asp Ile Lys Ile Ser Thr Gln Tyr Ile Gly Ser Phe  
165 170 175  
Ala Asp Leu Glu Ala Gly Arg Ser Val Ala Thr Arg Met Tyr Ser Asp  
180 185 190  
Glu Ile Asp Ile Ile His His Ala Ala Gly Leu Gly Gly Ile Gly Ala  
195 200 205  
Ile Glu Val Ala Lys Glu Leu Gly Ser Gly His Tyr Ile Ile Gly Val  
210 215 220  
Asp Glu Asp Gln Ala Tyr Leu Ala Pro Asp Asn Val Ile Thr Ser Thr  
225 230 235 240  
Thr Lys Asp Val Gly Arg Ala Leu Asn Ile Phe Thr Ser Asn His Leu  
245 250 255  
Lys Thr Asn Thr Phe Glu Gly Gly Lys Leu Ile Asn Tyr Gly Leu Lys  
260 265 270  
Glu Gly Val Val Gly Phe Val Arg Asn Pro Lys Met Ile Ser Phe Glu  
275 280 285  
Leu Glu Lys Glu Ile Asp Asn Leu Ser Ser Lys Ile Ile Asn Lys Glu  
290 295 300

Ile Ile Val Pro Ser Asn Lys Glu Ser Tyr Glu Lys Phe Leu Lys Glu  
 305 310 315 320

Phe Ile

<210> 423

<211> 1020

<212> DNA

<213> Homo sapiens

<400> 423

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gataaatctt ttaatgagag tgctttaaat ggcgtaaaaa aagttaaaga agaatttaaa 180
attgagcttg ttttaaaaga atcctcatca aattcttatt tatctgatct tgaagggctt 240
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gttgcggctc ttcaaaatcc cgatatgaaa tatgcaatta ttgatcctat ttattctaac 360
gatcctattc ctgcaaattt ggtgggcatg accttagag ctcaagaggg tgcattttta 420
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gaaggcgaga tagtagatgc ttttaggtat gggtatgaag ctggtgctaa gtatgctaata 540
aaagatataa agatatctac tcagtatatt ggtagttttg ctgaccttga agctggtaga 600
agcgttgcaa ctaggatgta ttctgatgag atagacatta ttcacatgct tgcaggcctt 660
ggaggaattg gggctattga ggttgcaaaa gaacttggtt ctgggcatta cattattgga 720
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ggcaaattaa taaattatgg ccttaaaaga ggagtgtggt ggtttgtaag aaatcctaaa 900
atgatttcct ttgaacttga aaaagaaatt gacaatcttt ctagcaaaat aatcaacaaa 960
gaaattattg ttccatctaa taaagaaagt tatgagaagt ttcttaaga atttattta 1020

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<210> 424

<211> 969

<212> DNA

<213> Homo sapiens

<400> 424

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gaatttaaaa ttgagcttgt tttaaaagaa tcctcatcaa attcttattt atctgatctt 180
gaagggtcta aggatgcggg ctcagattta atttggctta ttgggtatag atttagcgat 240
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gctggtagaa gcgttgcaac taggatgtat tctgatgaga tagacattat tcatcatgct 600
gcaggccttg gaggaattgg ggctattgag gttgcaaaag aacttggttc tgggcattac 660
attattggag ttgatgaaga tcaagcatat cttgctcctg acaatgtaat aacatctaca 720
actaaagatg ttggtagagc tttaaatatt tttacatcta accattttaa aactaatact 780
ttcgaagggt gcaaattaat aaattatggc cttaaaaga gagttgtggg gtttgtaaga 840
aatcctaaaa tgatttcctt tgaacttgaa aaagaaattg acaatctttc tagcaaaata 900
atcaacaaag aaattattgt tccatctaata aaagaaagtt atgagaagtt tcttaagaa 960
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<210> 425

<211> 194

<212> PRT

<213> Homo sapiens

<400> 425

Met Tyr Lys Asn Gly Phe Phe Lys Asn Tyr Leu Ser Leu Phe Leu Ile  
 1 5 10 15  
 Phe Leu Val Ile Ala Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val  
 20 25 30  
 Glu Glu Gln Glu Ala Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile  
 35 40 45  
 Asp Glu His Thr Ile Gly His Val Phe His Ala Met Gly Val Val His  
 50 55 60  
 Ser Lys Lys Asp Arg Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr  
 65 70 75 80  
 Phe Ser Glu Glu Asp Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn  
 85 90 95  
 Ala Lys Leu Ile Val Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala  
 100 105 110  
 Pro Ile Ser Ile Ser Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr  
 115 120 125  
 Pro Asp Phe Lys Lys Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser  
 130 135 140  
 Asp Leu Ile Gly Thr Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu  
 145 150 155 160  
 Glu Ile Thr Val Asp Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu  
 165 170 175  
 Ser Val Asn Tyr Ile Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu  
 180 185 190

Thr Asn

<210> 426

<211> 173

<212> PRT

<213> Homo sapiens

<400> 426

Cys Thr Ser Lys Asp Ser Ser Asn Glu Tyr Val Glu Glu Gln Glu Ala  
 1 5 10 15  
 Glu Asn Ser Ser Lys Pro Asp Asp Ser Lys Ile Asp Glu His Thr Ile  
 20 25 30  
 Gly His Val Phe His Ala Met Gly Val Val His Ser Lys Lys Asp Arg  
 35 40 45  
 Lys Ser Leu Gly Lys Asn Ile Lys Val Phe Tyr Phe Ser Glu Glu Asp  
 50 55 60  
 Gly His Phe Gln Thr Ile Pro Ser Lys Glu Asn Ala Lys Leu Ile Val  
 65 70 75 80

Tyr Phe Tyr Asp Asn Val Tyr Ala Gly Glu Ala Pro Ile Ser Ile Ser  
 85 90 95  
 Gly Lys Glu Ala Phe Ile Phe Val Gly Ile Thr Pro Asp Phe Lys Lys  
 100 105 110  
 Ile Ile Asn Ser Asn Leu His Gly Ala Lys Ser Asp Leu Ile Gly Thr  
 115 120 125  
 Phe Lys Asp Leu Asn Ile Lys Asn Ser Lys Leu Glu Ile Thr Val Asp  
 130 135 140  
 Glu Asn Asn Ser Asp Ala Lys Thr Phe Leu Glu Ser Val Asn Tyr Ile  
 145 150 155 160  
 Ile Asp Gly Val Glu Lys Ile Ser Pro Met Leu Thr Asn  
 165 170

<210> 427  
 <211> 585  
 <212> DNA  
 <213> Homo sapiens

<400> 427  
 atgtataaaa atgggtttttt taaaaactat ttgtcattgt ttttaatttt ttttagtaatt 60  
 gcttgactt caaaagatag ctcaaatgaa tatgttgagg agcaagaagc ggagaactct 120  
 tctaagcctg atgattctaa aatagatgaa catactattg ggcacgtttt tcacgctatg 180  
 ggagtagttc attcaaaaaa ggatcgaaaa agtttgggga aaaatataaa ggttttttat 240  
 ttttctgaag aagatggaca ttttcaaaca ataccctcaa aagagaatgc aaagttaata 300  
 gtttattttt atgacaatgt ttatgcagga gaggtcctaa ttagtatctc tggaaaagaa 360  
 gcctttattt ttgttgggat taccctgac tttaaaaaga ttataaatag caatttacat 420  
 ggcgctaaaa gtgatcttat tgggtacttt aaagatctta atattaaaaa ttcaaaattg 480  
 gaaattacag ttgatgagaa taattcagat gccaaagacct tccttgaatc tgtaattac 540  
 attatcgacg gcgttgaaaa aatttcacct atgttaacga attaa 585

<210> 428  
 <211> 522  
 <212> DNA  
 <213> Homo sapiens

<400> 428  
 tgtacttcaa aagatagctc aaatgaatat gttgaggagc aagaagcggg gaactcttct 60  
 aagcctgatg attctaaaat agatgaacat actattgggc acgtttttca cgctatggga 120  
 gtagttcatt caaaaaagga tcgaaaaagt ttggggaaaa atataaagggt tttttatttt 180  
 tctgaagaag atggacattt tcaaacaata ccctcaaaag agaatgcaa gttaatagtt 240  
 tatttttatg acaatgttta tgcaggagag gctccaatta gtatctctgg aaaagaagcc 300  
 tttatttttg ttgggattac ccctgacttt aaaaagatta taaatagcaa ttacatggc 360  
 gctaaaagtg atcttattgg tacttttaaa gatcttaata ttaaaaattc aaaattggaa 420  
 attacagttg atgagaataa ttcagatgcc aagaccttcc ttgaatctgt taattacatt 480  
 atcgacggcg ttgaaaaaat ttcacctatg ttaacgaatt aa 522

<210> 429  
 <211> 541  
 <212> PRT  
 <213> Homo sapiens

<400> 429  
 Met Ser Phe Asn Lys Thr Lys Lys Ile Gly Lys Lys Ile Lys Ile Val  
 1 5 10 15



Thr Leu Leu Met Leu Ala Val Ser Leu Ile Ala Cys Asn Asn Asn Ser  
 20 25 30  
 Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile Gly Gly Ala Pro Ser  
 35 40 45  
 Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile Gly Ala Arg Ile Leu  
 50 55 60  
 Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn Thr Lys Thr Gly Lys  
 65 70 75 80  
 Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala Ser Lys Asp Lys Lys  
 85 90 95  
 Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe Trp Ser Asp Gly Val  
 100 105 110  
 Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe Leu Arg Ile Leu Asn  
 115 120 125  
 Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu Lys Ser Ile Ile Lys  
 130 135 140  
 Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser Asp Ser Glu Leu Gly  
 145 150 155 160  
 Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile Thr Leu Thr Ala Pro  
 165 170 175  
 Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr Ala Phe Met Pro Val  
 180 185 190  
 Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn Trp Thr Ser Pro Glu  
 195 200 205  
 Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys Lys Arg Leu Pro Asn  
 210 215 220  
 Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr Tyr Asn Ala Lys Glu  
 225 230 235 240  
 Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser Asp Asn Asp Leu Thr  
 245 250 255  
 Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp Ala Ile Phe Asn Ser  
 260 265 270  
 Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu Gln Lys Asp Tyr Tyr  
 275 280 285  
 Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser Phe Asn Thr Lys Ile  
 290 295 300  
 Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala Leu Thr Leu Ala Ile  
 305 310 315 320  
 Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn Asp Gly Thr Val Pro  
 325 330 335

Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr Asn Tyr Gly Lys Lys  
 340 345 350  
 Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys Leu Leu Ala Asp Ala  
 355 360 365  
 Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu Thr Leu Lys Tyr Asn  
 370 375 380  
 Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe Ile Gln Asn Gln Trp  
 385 390 395 400  
 Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr Asn Glu Asn Trp Pro  
 405 410 415  
 Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe Glu Ile Ile Arg Val  
 420 425 430  
 Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr Tyr Phe Thr Ile Phe  
 435 440 445  
 Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly Tyr Ser Asn Leu Glu  
 450 455 460  
 Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu Lys Asp Pro Ile Lys  
 465 470 475 480  
 Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile Ile Ile Glu Lys Asp  
 485 490 495  
 Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly His Tyr Leu Phe Arg  
 500 505 510  
 Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val Ser Glu Val Tyr Tyr  
 515 520 525  
 Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys His Asn  
 530 535 540  
 <210> 430  
 <211> 514  
 <212> PRT  
 <213> Homo sapiens  
 <400> 430  
 Cys Asn Asn Asn Ser Glu Lys Glu Lys Leu Ala Phe Lys Val Tyr Ile  
 1 5 10 15  
 Gly Gly Ala Pro Ser Ser Leu Asp Pro His Leu Val Asp Glu Thr Ile  
 20 25 30  
 Gly Ala Arg Ile Leu Glu Gln Ile Phe Ser Gly Leu Leu Thr Leu Asn  
 35 40 45  
 Thr Lys Thr Gly Lys Leu Lys Pro Gly Leu Ala Lys Asn Trp Glu Ala  
 50 55 60  
 Ser Lys Asp Lys Lys Thr Tyr Gln Phe Tyr Leu Arg Asp Asn Leu Phe  
 65 70 75 80

Trp Ser Asp Gly Val Glu Ile Thr Ala Glu Gly Ile Arg Lys Ser Phe  
 85 90 95  
 Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Thr Asn Val Asp Met Leu  
 100 105 110  
 Lys Ser Ile Ile Lys Asn Gly Gln Glu Tyr Phe Asp Gly Lys Val Ser  
 115 120 125  
 Asp Ser Glu Leu Gly Ile Lys Ala Ile Asp Ser Lys Thr Leu Glu Ile  
 130 135 140  
 Thr Leu Thr Ala Pro Lys Pro Tyr Phe Leu Glu Leu Leu Leu His Tyr  
 145 150 155 160  
 Ala Phe Met Pro Val Pro Ile His Val Ile Glu Lys Tyr Lys Gly Asn  
 165 170 175  
 Trp Thr Ser Pro Glu Asn Met Val Thr Ser Gly Pro Phe Lys Leu Lys  
 180 185 190  
 Lys Arg Leu Pro Asn Glu Lys Ile Ile Phe Glu Lys Asn Glu Arg Tyr  
 195 200 205  
 Tyr Asn Ala Lys Glu Val Glu Leu Asp Glu Leu Val Tyr Ile Thr Ser  
 210 215 220  
 Asp Asn Asp Leu Thr Val Tyr Asn Met Tyr Lys Asn Asn Glu Ile Asp  
 225 230 235 240  
 Ala Ile Phe Asn Ser Ile Pro Pro Asp Ile Val Asn Glu Ile Lys Leu  
 245 250 255  
 Gln Lys Asp Tyr Tyr Gln His Lys Ser Asn Ala Ile Tyr Leu Tyr Ser  
 260 265 270  
 Phe Asn Thr Lys Ile Lys Pro Leu Asp Asp Ala Arg Val Arg Glu Ala  
 275 280 285  
 Leu Thr Leu Ala Ile Asp Arg Glu Thr Leu Thr Tyr Lys Val Leu Asn  
 290 295 300  
 Asp Gly Thr Val Pro Thr Arg Glu Ile Thr Pro Asp Leu Lys Asn Tyr  
 305 310 315 320  
 Asn Tyr Gly Lys Lys Leu Ala Leu Phe Asp Pro Glu Lys Ser Lys Lys  
 325 330 335  
 Leu Leu Ala Asp Ala Gly Tyr Pro Asn Gly Lys Gly Phe Pro Met Leu  
 340 345 350  
 Thr Leu Lys Tyr Asn Thr Asn Glu Thr His Lys Lys Ile Ala Ala Phe  
 355 360 365  
 Ile Gln Asn Gln Trp Lys Lys Ile Leu Asn Ile Asn Leu Met Leu Thr  
 370 375 380  
 Asn Glu Asn Trp Pro Val Leu Thr Asn Ser Arg Asn Thr Gly Asn Phe  
 385 390 395 400

Glu Ile Ile Arg Val Gly Arg Ile Gly Glu Tyr Leu Asp Pro His Thr  
 405 410 415  
 Tyr Phe Thr Ile Phe Thr Arg Glu Asn Ser Gln Leu Ala Ser Tyr Gly  
 420 425 430  
 Tyr Ser Asn Leu Glu Phe Asp Lys Leu Ile Arg Glu Ser Asp Leu Glu  
 435 440 445  
 Lys Asp Pro Ile Lys Arg Lys Gln Leu Leu Arg Lys Ala Glu Ser Ile  
 450 455 460  
 Ile Ile Glu Lys Asp Phe Pro Ala Ala Pro Ile Tyr Ile Tyr Ser Gly  
 465 470 475 480  
 His Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Pro Asn Val  
 485 490 495  
 Ser Glu Val Tyr Tyr Leu Ser Glu Leu Lys Pro Ile Lys Asn Ala Lys  
 500 505 510

His Asn

<210> 431

<211> 1626

<212> DNA

<213> Homo sapiens

<400> 431

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 cttgctgtgt ctttaattgc atgcaataat aattcagaaa aagaaaaatt agcattttaa 120  
 gtatacatag ggggagcgcc ctcatcgctt gaccctcatt tggtagatga gacaatagga 180  
 gcaagaattt tagaacaat attctcaggg cttttgacat taaataccaa aacaggaaaag 240  
 ctaaagcccg gacttgctaa aaattgggaa gcctcaaaag ataaaaaac atatcaattt 300  
 tatctaaggg acaacctttt ttggagcgat ggagttgaaa ttaccgctga agggataaga 360  
 aaatcttttt taagaatttt aaataaagaa acaggatcta caaatgttga catgctcaaa 420  
 tcaataataa aaaatggaca agagtatttt gacgggaaag tatccgattc tgaacttgga 480  
 atcaaggcaa ttgatagtaa aacgctggaa ataacactta cggcccaaaa gccatatttt 540  
 cttgaactgc ttctacatta cgcattcatg ccagtaccta ttcattgtgat tgaaaaatat 600  
 aagggaaatt ggacaagccc tgaaaacatg gttactagcg gtccttttaa attaaaaaaa 660  
 agattaccta atgaaaaaat tatctttgaa aaaaacgaac gttattataa tgcaaaagaa 720  
 gtagaacttg atgagcttgt ctacattacg tctgacaatg atcttactgt gtacaatatg 780  
 tacaaaaaca acgaaattga tgctattttt aacagcatcc cgccggacat tgtaaatgaa 840  
 ataaaactac aaaaagacta ttaccaacac aaaagtaatg caatttattt atattcattt 900  
 aatacaaaaa taaaaccctt tgatgatgct agagttagag aagctttaac cttagctatt 960  
 gacagagaaa ctttaactta caaagtgcata aatgatggca cagttcctac aagagaaata 1020  
 actcctgatc ttaaaaatta caattacggg aaaaaattgg ctttatttga tctgaaaaaa 1080  
 tctaaaaagc ttttggcaga tgcagggtat cctaattggga aaggattccc aatgctaaca 1140  
 ctaaaatata atacaaacga aactcataaa aaaattgctg catttattca aaaccaatgg 1200  
 aaaaaaattc taaatatcaa tcttatgctt accaacgaaa attggcctgt tcttaccac 1260  
 agcagaataa ctggcaattt tgaaataata agagttggac gcattgggga atatttagat 1320  
 ccacacacat actttactat attcacaaga gaaaattcac aacttgcata atacggatat 1380  
 tcaaacctag aatttgacaa actcatcaga gaatcagatc ttgaaaaaga tctataaaa 1440  
 agaaaacaat tactcagaaa agcagaatca ataataattg aaaaagattt tctgctgca 1500  
 ccaatatata tatattctgg gcattatctt tttagaaacg ataaatggac tggatggaat 1560  
 cctaattgtat cagaggttta ttatctttct gaattaaaac caattaaaaa tgcaaaacat 1620  
 aattaa 1626

<210> 432

<211> 1545  
 <212> DNA  
 <213> Homo sapiens

<400> 432  
 tgcaataata attcagaaaa agaaaaatta gcattttaag tatacatagg gggagcgccc 60  
 tcatcgcttg accctcattt ggtagatgag acaataggag caagaatttt agaacaaata 120  
 ttctcagggc ttttgacatt aaataccaaa acaggaaagc taaagcccg acttgctaaa 180  
 aattgggaag cctcaaaaga taaaaaaaca tatcaatttt atctaaggga caaccttttt 240  
 tggagcgatg gagttgaaat taccgctgaa gggataagaa aatctttttt aagaatttta 300  
 aataaagaaa caggatctac aaatgttgac atgctcaa atcaataaaa aaatggacaa 360  
 gagtattttg acgggaaagt atccgattct gaacttggaa tcaaggcaat tgatagtaaa 420  
 acgctggaaa taacacttac ggcccccagg ccatattttc ttgaaactgt tctacattac 480  
 gcattcatgc cagtacctat tcatgtgatt gaaaaatata agggaaattg gacaagccct 540  
 gaaaacatgg ttactagcgg tcctttttaaa ttaaaaaaaa gattacctaa tgaaaaaatt 600  
 atctttgaaa aaaacgaacg ttattataat gcaaaagaag tagaacttga tgagcttgct 660  
 tacattacgt ctgacaatga tcttactgtg tacaatatgt acaaaaacaa cgaaattgat 720  
 gctattttta acagcatccc gccggacatt gtaaatgaaa taaaactaca aaaagactat 780  
 taccacacaa aaagtaatgc aattttattt tattcattta atacaaaaat aaaaccctt 840  
 gatgatgcta gagttagaga agctttaacc ttagctattg acagagaaac tttaacttac 900  
 aaagtgctaa atgatggcac agttcctaca agagaaataa ctctgatct taaaaattac 960  
 aattacggta aaaaattggc tttatttgat cctgaaaaat ctaaaaagct tttggcagat 1020  
 gcagggtatc ctaatgggaa aggattccca atgctaacac taaaatataa taaaaacgaa 1080  
 actcataaaa aaattgctgc atttattcaa aaccaatgga aaaaaattct aaatatcaat 1140  
 cttatgctta ccaacgaaaa ttggcctgtt cttaccaaca gcagaaatac tggcaatttt 1200  
 gaaataataa gagttggacg cattggggaa tatttagatc cacacacata ctttactata 1260  
 ttcacaagag aaaattcaca acttgcattc tacggatatt caaacctaga atttgacaaa 1320  
 ctcatcagag aatcagatct tgaaaaagat cctataaaaa gaaaacaatt actcagaaaa 1380  
 gcagaatcaa taataattga aaaagatttt cctgctgcac caatatacat atattctggg 1440  
 cattatcttt ttagaaacga taaatggact ggatggaatc ctaatgtatc agagggtttat 1500  
 tatctttctg aattaaaacc aattaaaaat gcaaaacata attaa 1545

<210> 433  
 <211> 279  
 <212> PRT  
 <213> Homo sapiens

<400> 433  
 Met Lys Lys Val Ile Ile Leu Ile Phe Met Leu Ser Thr Ser Leu Leu  
 1 5 10 15  
 Tyr Asn Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly  
 20 25 30  
 Ser Thr Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn  
 35 40 45  
 Lys Ile Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser  
 50 55 60  
 Val Gly Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser  
 65 70 75 80  
 Ser Arg Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr  
 85 90 95  
 Val Phe Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys  
 100 105 110  
 Ile Thr Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu

115	120	125
Ile Gln Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe		
130	135	140
Ile Asn Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu		
145	150	155
Leu Leu Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln		
165	170	175
Asp Gly Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser		
180	185	190
Leu Thr Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn		
195	200	205
Ser Ile Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro		
210	215	220
Thr Lys Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu		
225	230	235
Ile Ile Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe		
245	250	255
Ile Asp Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln		
260	265	270
Gly Phe Leu Gly Ile Lys Thr		
275		

<210> 434  
 <211> 261  
 <212> PRT  
 <213> Homo sapiens

<400> 434
Cys Lys Asn Gln Asp Asn Glu Lys Ile Val Ser Ile Gly Gly Ser Thr
1 5 10 15
Thr Val Ser Pro Ile Leu Asp Glu Met Ile Leu Arg Tyr Asn Lys Ile
20 25 30
Asn Asn Asn Thr Lys Val Thr Tyr Asp Ala Gln Gly Ser Ser Val Gly
35 40 45
Ile Asn Gly Leu Phe Asn Lys Ile Tyr Lys Ile Ala Ile Ser Ser Arg
50 55 60
Asp Leu Thr Lys Glu Glu Ile Glu Gln Gly Ala Lys Glu Thr Val Phe
65 70 75 80
Ala Tyr Asp Ala Leu Ile Phe Ile Thr Ser Pro Glu Ile Lys Ile Thr
85 90 95
Asn Ile Thr Glu Glu Asn Leu Ala Lys Ile Leu Asn Gly Glu Ile Gln
100 105 110
Asn Trp Lys Gln Val Gly Gly Pro Asp Ala Lys Ile Asn Phe Ile Asn

115	120	125
Arg Asp Ser Ser Ser Gly Ser Tyr Ser Ser Ile Lys Asp Leu Leu Leu		
130	135	140
Asn Lys Ile Phe Lys Thr His Glu Glu Ala Gln Phe Arg Gln Asp Gly		
145	150	155
Ile Val Val Lys Ser Asn Gly Glu Val Ile Glu Lys Thr Ser Leu Thr		
	165	170
Pro His Ser Ile Gly Tyr Ile Gly Leu Gly Tyr Ala Lys Asn Ser Ile		
	180	185
Glu Lys Gly Leu Asn Ile Leu Ser Val Asn Ser Thr Tyr Pro Thr Lys		
	195	200
Glu Thr Ile Asn Ser Asn Lys Tyr Thr Ile Lys Arg Asn Leu Ile Ile		
	210	215
Val Thr Asn Asn Lys Tyr Glu Asp Lys Ser Val Thr Gln Phe Ile Asp		
	225	230
Phe Met Thr Ser Ser Thr Gly Gln Asp Ile Val Glu Glu Gln Gly Phe		
	245	250
Leu Gly Ile Lys Thr		
	260	

<210> 435  
 <211> 840  
 <212> DNA  
 <213> Homo sapiens

<400> 435  
 atgaaaaaag ttattatctt aattttttatg ctatcaacaa gtttattata caactgtaaa 60  
 aatcaagaca atgaaaaaat tgtatcaatt ggaggatcta caactgtaag cccaatacta 120  
 gacgaaatga ttttaagata taataaaaata aacaataata cttaaagtaac atacgatgca 180  
 caaggaagta gtgttggcat aaacgggcta ttttaacaaaa tatataaaat agcaatatca 240  
 tcaagagatt taacaaaaga agaaattgaa caagggggcaa aagaaactgt atttgcttat 300  
 gatgcttttaa ttttcattac aagccctgaa ataaaaatta caaatattac agaagaaaat 360  
 ctagctaaaa tactaaatgg agaaattcaa aattggaaac aagtgggagg tctgatgct 420  
 aaaatcaact ttatcaatcg agactcttct tctggttctt attcgtctat aaaagacct 480  
 cttcttaata aaatattcaa aactcacgaa gaagctcaat ttagacaaga cggaatagtg 540  
 gtaaaatcta atggagaggt aattgaaaaa acaagcctta ctccccactc aataggatat 600  
 atagggtcttg gatacgcaaa aaattcaata gaaaagggtt tgaatattct ttctgttaac 660  
 agcacatatc ctacaaaaga aacaataaat agcaataaat acaccattaa aagaaattta 720  
 ataatagtta caaataacaa atacgaggat aaaagcgtaa ctcaatttat tgatttcatg 780  
 acaagctcaa ctggacaaga tattgttgaa gaacaaggct ttttagggat aaaaacataa 840

<210> 436  
 <211> 786  
 <212> DNA  
 <213> Homo sapiens

<400> 436  
 tgtaaaaatc aagacaatga aaaaattgta tcaattggag gatctacaac tgtaagccca 60  
 atactagacg aatgattttt aagatataat aaaataaaca ataatactaa agtaacatac 120  
 gatgcacaag gaagtagtgt tggcataaac gggctattta acaaaatata taaaatagca 180  
 atatcatcaa gagatttaac aaaagaagaa attgaacaag gggcaaaaga aactgtattt 240

gcttatgatg ctttaatttt cattacaagc cctgaaataa aaattacaaa tattacagaa 300  
gaaaatctag ctaaaatact aaatggagaa attcaaaatt ggaaacaagt gggaggtcct 360  
gatgctaaaa tcaactttat caatcgagac tcttcttctg gttcttattc gtctataaaa 420  
gacctacttc ttaataaaaat attcaaaact cacgaagaag ctcaatttag acaagacgga 480  
atagtggtaa aatctaattg agaggtaatt gaaaaaacia gccttactcc cactcaata 540  
ggatatatag gtcttggata cgcaaaaaat tcaatagaaa aggggttgaa tattctttct 600  
gttaacagca catatcctac aaaagaaaca ataaatagca ataaatacac cattaanaaga 660  
aatttaataa tagttacaaa taacaaatac gaggataaaa gcgtaactca atttattgat 720  
ttcatgacaa gctcaactgg acaagatatt gttgaagaac aaggcttttt agggataaaa 780  
acataa

<210> 437

<211> 508

<212> PRT

<213> Homo sapiens

<400> 437

Met Asn Lys Lys Leu Asn Glu Val Leu Leu Lys Leu Asp Gln Asp Leu  
1 5 10 15

Ile Lys Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr  
20 25 30

Tyr Ser Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro  
35 40 45

Gly Ile His Phe Asp Gly His Asp Phe Ile Glu Ile Ala Ile Gln Lys  
50 55 60

Gly Ser Asn Val Val Val Cys Ser Arg Asp Val Asp Phe Tyr Ser Pro  
65 70 75 80

Asn Val Thr Tyr Ile Lys Val Asp Asp Phe Asn Ile Arg Lys Phe Met  
85 90 95

Ser Asn Phe Ser Asn Ile Phe Tyr Asp Glu Pro Ser Lys Lys Leu Lys  
100 105 110

Val Ile Gly Val Thr Gly Thr Asp Gly Lys Ser Ser Val Cys Tyr Tyr  
115 120 125

Ile Tyr Leu Leu Phe Lys Lys Lys Gly Val Lys Val Gly Phe Ile Ser  
130 135 140

Thr Val Phe Phe Asp Asp Gly Ser Gly Ser Leu Ile Lys Asn Pro Tyr  
145 150 155 160

Arg Gln Ser Thr Pro Glu Ser Thr Glu Ile His Ser Phe Leu Ser Thr  
165 170 175

Met Val Lys Asn Glu Ala Gln Tyr Ala Ile Leu Glu Ser Thr Ser His  
180 185 190

Gly Leu Asp Leu Glu Thr Ala Arg Leu Ile Asp Val Asn Tyr Phe Ala  
195 200 205

Val Val Phe Thr Asn Ile Gly His Glu His Leu Glu Phe His Gly Thr  
210 215 220

Ile Gln Asn Tyr Leu Asn Val Lys Leu Gly Leu Phe Arg Ser Val Ser



225                      230                      235                      240  
 Asp Asp Ala Gly Phe Gly Val Ile Asn Leu Asp Asp Leu Tyr Ser Ser  
                                  245                      250                      255  
 Asp Phe Lys Asn Ala Val Lys Lys Ser Phe Thr Tyr Ser Leu Lys Ser  
                                  260                      265                      270  
 Ser Lys Ala Asp Phe Phe Val Ser Phe Ile Asp Glu Lys Thr Asp Ser  
                                  275                      280                      285  
 Thr Arg Phe Glu Phe Tyr His Lys Gly Val Lys Tyr Leu Ala Asn Val  
                                  290                      295                      300  
 Ser Leu Leu Gly Ser Phe Asn Val Glu Asn Val Met Ala Ala Leu Ile  
 305                                   310                      315                      320  
 Leu Val Ser Gln Ile Leu Asn Ile Asp Ile Gln Asp Ile Val Asp Lys  
                                  325                      330                      335  
 Leu Asn Cys Ile Lys Ser Leu Asp Gly Arg Met Asp Ser Ile Asn Leu  
                                  340                      345                      350  
 Gly Gln Asn Phe Ser Val Ile Ile Asp Tyr Ala His Thr Pro Gly Ala  
                                  355                      360                      365  
 Phe Ser Lys Leu Phe Pro Ile Phe Lys Arg Phe Ala Thr Asn Arg Leu  
                                  370                      375                      380  
 Ile Ser Val Phe Gly Ser Ala Gly Glu Arg Asp Val Glu Lys Arg Phe  
 385                                   390                      395                      400  
 Leu Gln Gly Gln Ile Ala Asp Ile Tyr Ser Asp Leu Ile Ile Leu Cys  
                                  405                      410                      415  
 Asp Glu Asp Pro Arg Gly Glu Asn Ser Met Cys Ile Ile Lys Asp Ile  
                                  420                      425                      430  
 Ala Lys Gly Ile Val Asn Lys Val Glu Asn Lys Asp Leu Phe Phe Ile  
                                  435                      440                      445  
 Ala Asp Arg Lys Gln Ala Ile Glu Lys Ala Ile Ser Leu Ala Lys Ala  
                                  450                      455                      460  
 Gly Asp Leu Val Val Ala Leu Gly Lys Gly His Glu Ser Ser Ile Ile  
 465                                   470                      475                      480  
 Tyr Lys Asn Arg Glu Val Phe Trp Asn Glu Gln Glu Val Val Lys Asn  
                                  485                      490                      495  
 Ala Ile Leu Ser Leu Glu Lys Ser Glu Lys Glu Lys  
                                  500                      505  
  
 <210> 438  
 <211> 490  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 438  
 Cys Val Lys Gly Ser Leu Asp Leu Glu Ile Ser Gly Val Thr Tyr Ser

1	5	10	15
Ser Lys Leu Val Leu Pro Arg Phe Val Phe Phe Ala Leu Pro Gly Ile	20	25	30
His Phe Asp Gly His Asp Phe Ile Glu Ile Ala Ile Gln Lys Gly Ser	35	40	45
Asn Val Val Val Cys Ser Arg Asp Val Asp Phe Tyr Ser Pro Asn Val	50	55	60
Thr Tyr Ile Lys Val Asp Asp Phe Asn Ile Arg Lys Phe Met Ser Asn	65	70	75
Phe Ser Asn Ile Phe Tyr Asp Glu Pro Ser Lys Lys Leu Lys Val Ile	85	90	95
Gly Val Thr Gly Thr Asp Gly Lys Ser Ser Val Cys Tyr Tyr Ile Tyr	100	105	110
Leu Leu Phe Lys Lys Lys Gly Val Lys Val Gly Phe Ile Ser Thr Val	115	120	125
Phe Phe Asp Asp Gly Ser Gly Ser Leu Ile Lys Asn Pro Tyr Arg Gln	130	135	140
Ser Thr Pro Glu Ser Thr Glu Ile His Ser Phe Leu Ser Thr Met Val	145	150	155
Lys Asn Glu Ala Gln Tyr Ala Ile Leu Glu Ser Thr Ser His Gly Leu	165	170	175
Asp Leu Glu Thr Ala Arg Leu Ile Asp Val Asn Tyr Phe Ala Val Val	180	185	190
Phe Thr Asn Ile Gly His Glu His Leu Glu Phe His Gly Thr Ile Gln	195	200	205
Asn Tyr Leu Asn Val Lys Leu Gly Leu Phe Arg Ser Val Ser Asp Asp	210	215	220
Ala Gly Phe Gly Val Ile Asn Leu Asp Asp Leu Tyr Ser Ser Asp Phe	225	230	235
Lys Asn Ala Val Lys Lys Ser Phe Thr Tyr Ser Leu Lys Ser Ser Lys	245	250	255
Ala Asp Phe Phe Val Ser Phe Ile Asp Glu Lys Thr Asp Ser Thr Arg	260	265	270
Phe Glu Phe Tyr His Lys Gly Val Lys Tyr Leu Ala Asn Val Ser Leu	275	280	285
Leu Gly Ser Phe Asn Val Glu Asn Val Met Ala Ala Leu Ile Leu Val	290	295	300
Ser Gln Ile Leu Asn Ile Asp Ile Gln Asp Ile Val Asp Lys Leu Asn	305	310	315
Cys Ile Lys Ser Leu Asp Gly Arg Met Asp Ser Ile Asn Leu Gly Gln			

325 330 335  
 Asn Phe Ser Val Ile Ile Asp Tyr Ala His Thr Pro Gly Ala Phe Ser  
 340 345 350  
 Lys Leu Phe Pro Ile Phe Lys Arg Phe Ala Thr Asn Arg Leu Ile Ser  
 355 360 365  
 Val Phe Gly Ser Ala Gly Glu Arg Asp Val Glu Lys Arg Phe Leu Gln  
 370 375 380  
 Gly Gln Ile Ala Asp Ile Tyr Ser Asp Leu Ile Ile Leu Cys Asp Glu  
 385 390 395 400  
 Asp Pro Arg Gly Glu Asn Ser Met Cys Ile Ile Lys Asp Ile Ala Lys  
 405 410 415  
 Gly Ile Val Asn Lys Val Glu Asn Lys Asp Leu Phe Phe Ile Ala Asp  
 420 425 430  
 Arg Lys Gln Ala Ile Glu Lys Ala Ile Ser Leu Ala Lys Ala Gly Asp  
 435 440 445  
 Leu Val Val Ala Leu Gly Lys Gly His Glu Ser Ser Ile Ile Tyr Lys  
 450 455 460  
 Asn Arg Glu Val Phe Trp Asn Glu Gln Glu Val Val Lys Asn Ala Ile  
 465 470 475 480  
 Leu Ser Leu Glu Lys Ser Glu Lys Glu Lys  
 485 490

<210> 439  
 <211> 1527  
 <212> DNA  
 <213> Homo sapiens

<400> 439  
 atgaataaaa aacttaatga agtttttatta aagtttagatc aagattttaat aaaatgtgta 60  
 aaagggttctc ttgatttaga aatatcagga gttacttata gttctaaatt ggttttgccc 120  
 aggtttgtgt tttttgctct tccaggaatt cattttgatg ggcattgatt tattgaaatt 180  
 gcaattcaaa agggtagtaa tggtgttggtg tggtcacgag atgtggattt ttacagtcct 240  
 aatgttactt atattaaggt agatgacttt aacataagaa aatttatgtc taatttttca 300  
 aatatttttt atgatgagcc ttcaaaaaaa ttaaaagtta ttggagtcac tggcactgac 360  
 gggaaaagtt ctggttggtta ttatatatat cttcttttta aaaaaaaggg tgttaaagta 420  
 ggttttatat cgacagtatt ttttgatgat gggagtggaa gcttgattaa aaatccttac 480  
 agacaatcaa ctcccagatc tacggaaata cattcatttt taagcaccat ggtaaaaaat 540  
 gaagctcaat atgcaattct tgaatctact tctcatgggc ttgacctga aacagcaagg 600  
 cttattgatg ttaattattt tgcagttggt tttaccaata ttggacatga gcatcttgaa 660  
 tttcatggca caattcaaaa ttatttgaat gtcaagctgg gtctttttcg gtctgttagt 720  
 gatgatgctg gttttggggt tattaatctt gatgaccttt attcttctga ttttaagaat 780  
 gctgttaaga aatctttttac ttatagctta aaaagcagta aagcggattt ttttgtagt 840  
 tttattgatg agaaaaccga ttctactaga tttgaatttt atcacaaggg ggttaaatat 900  
 cttgctaatt ttagcctact ggggagtttt aatggtgaga atgtaatggc tgctcttatt 960  
 ttagtttctc aaatttttaa tatcgatatt caagatatg ttgataaact taactgcatt 1020  
 aaaagtcttg atgggcgtat ggatagtatt aatttggggc aaaatttttc tgtaataatt 1080  
 gattatgctc atactcctgg tgctttttcc aagctttttc ctatttttaa aagatttgct 1140  
 accaatagat tgatttctgt ttttggctct gcaggagaaa gagatgttga aaaaagattt 1200  
 ttgcaagggc aaatcgaga tatttattct gatttaataa tactttgcga tgaagatcca 1260  
 agaggcgaga atagtatgtg tataattaaa gacattgcaa aaggaattgt aaataaagtt 1320

gaaaataagg atttatTTTT ttttctgtat agaaagcagg ctattgaaaa agcaataagt 1380  
 cttgcaaaag caggagattt ggttggttgct ttggggcaaa gtcatagaaag ttcaataatt 1440  
 tataaaaaata gagaagtttt ttggaatgaa caagaggtag ttaaaaaatgc tatttttaagt 1500  
 ttagaaaaat cagaaaagga gaagtga 1527

<210> 440  
 <211> 1473  
 <212> DNA  
 <213> Homo sapiens

<400> 440  
 tgtgtaaaaag gttctcttga tttagaaata tcaggagtta cttatagttc taaattgggtt 60  
 ttgcccagggt ttgtgttttt tgctcttcca ggaattcatt ttgatgggca tgatttttatt 120  
 gaaattgcaa ttcaaaaggg tagtaatggt gttgtgtggt cacgagatgt ggattttttac 180  
 agtcctaagt ttacttatat taaggtagat gactttaaca taagaaaatt tatgtcctaat 240  
 ttttcaaata ttttttatga tgagccttca aaaaaattaa aagttattgg agtcactggc 300  
 actgacggga aaagtctctgt ttgttattat atatatcttc tttttaaaaa aaaggggtgtt 360  
 aaagtagggt ttatatcgac agtatttttt gatgatggga gtggaagctt gattaaaaat 420  
 ccttacagac aatcaactcc cgagtctacg gaaatacatt cattttttaag caccatgggtt 480  
 aaaaatgaag ctcaatatgc aattcttgaa tctacttctc atgggcttga ccttgaaaca 540  
 gcaaggctta ttgatgttaa ttattttgca gttgttttta ccaatattgg acatgagcat 600  
 cttgaatttc atggcacaat tcaaaattat ttgaatgtca agctgggtct ttttcgggtct 660  
 gttagtgatg atgctgggtt tgggggttatt aatcttgatg acctttattc ttctgatttt 720  
 aagaatgctg ttaagaaatc ttttacttat agcttaaaaa gcagtaaagc ggattttttt 780  
 gttagtttta ttgatgagaa aaccgattct actagatttg aattttatca caaggggggtt 840  
 aaatatcttg ctaatggttag cctactgggg agttttaatg ttgagaatgt aatggctgct 900  
 cttatttttag tttctcaaat tttaaatatc gatattcaag atattgttga taaacttaac 960  
 tgcattaaaa gtcttgatgg gcgtatggat agtattaatt tggggcaaaa tttttctgta 1020  
 ataattgatt atgctcatac tcttggtgct ttttccaagc tttttcctat ttttaaaaga 1080  
 tttgctacca atagattgat ttctgttttt ggctctgcag gagaaagaga tgttgaaaaa 1140  
 agatttttgc aaggggcaaat cgcagatatt tattctgatt taataatact ttgcgatgaa 1200  
 gatccaagag gcgagaatag tatgtgtata attaaagaca ttgcaaaagg aattgtaaat 1260  
 aaagttgaaa ataaggattt attttttatt gctgatagaa agcaggctat tgaaaaagca 1320  
 ataagtcttg caaaagcagg agatttggtt gttgctttgg gcaaaggctc tgaaagttca 1380  
 ataatttata aaaatagaga agttttttgg aatgaacaag aggtagttaa aaatgctatt 1440  
 ttaagtttag aaaaatcaga aaaggagaag tga 1473

<210> 441  
 <211> 238  
 <212> PRT  
 <213> Homo sapiens

<400> 441  
 Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu Ile Met Leu Pro Met  
 1 5 10 15  
 Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln  
 20 25 30  
 Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile  
 35 40 45  
 Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His  
 50 55 60  
 Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp  
 65 70 75 80  
 Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile  
 85 90 95

Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu  
100 105 110

Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile  
115 120 125

Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn  
130 135 140

Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala  
145 150 155 160

Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys  
165 170 175

Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr  
180 185 190

Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu  
195 200 205

Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn  
210 215 220

Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
225 230 235

<210> 442

<211> 218

<212> PRT

<213> Homo sapiens

<400> 442

Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
1 5 10 15

Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
20 25 30

Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
35 40 45

Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
50 55 60

Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
65 70 75 80

Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
85 90 95

Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
100 105 110

Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala  
115 120 125

Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
130 135 140

Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
 145 150 155 160  
 Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
 165 170 175  
 Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
 180 185 190  
 Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
 195 200 205  
 Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
 210 215

<210> 443  
 <211> 717  
 <212> DNA  
 <213> Homo sapiens

<400> 443  
 atggtatttta gaacatataa acatttggaa ctaataatgc tgcccatggt aatgctgagt 60  
 tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 120  
 agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 180  
 aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgagat 240  
 ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 300  
 aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 360  
 aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 420  
 gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 480  
 taccattttg gaatattgat gagtgacgag attaaaaatg cttttaaatt aacatataaa 540  
 aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 600  
 actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 660  
 ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 717

<210> 444  
 <211> 657  
 <212> DNA  
 <213> Homo sapiens

<400> 444  
 tgcgctttttt ttaagaaacc acaatctgta catcaagaca gcaatactgg caaaccaata 60  
 agcgatgaaa aattacattt aatatcaggc aaaatttcaa ataaaaaatt gccaatcata 120  
 aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgagat 180  
 ggaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240  
 aaaatggatg gaaaatatag ttattacgcg tcattattaa tactttttga aacaactaaa 300  
 aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360  
 gaacttaaaa attctctttt agctgttgaa aattcacaag aagaaggata tgttactgca 420  
 taccattttg gaatattgat gagtgacgag attaaaaatg cttttaaatt aacatataaa 480  
 aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 540  
 actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagtg 600  
 ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tatataa 657

<210> 445  
 <211> 126  
 <212> PRT  
 <213> Homo sapiens

<400> 445  
 Met Leu Arg Lys Leu Lys Asp Ile Ser Lys Ile Val Leu Val Thr Asp

1                      5                      10                      15  
 Gly Leu Thr Pro Asn Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly  
                     20                      25                      30  
 Asp Glu Val Tyr Ile Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser  
                     35                      40                      45  
 Asn Thr Ile Ala Gly Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn  
                     50                      55                      60  
 Leu Ile Glu Phe Gly Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser  
                     65                      70                      75                      80  
 Tyr Asn Pro Thr Arg Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys  
                     85                      90                      95  
 His Gly Tyr Asp Ala Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu  
                     100                      105                      110  
 Lys Leu Thr Met Ile Glu Ser Lys Ile Ile Phe Asn Asn Leu  
                     115                      120                      125

<210> 446  
 <211> 105  
 <212> PRT  
 <213> Homo sapiens

<400> 446  
 Cys Gln Thr Cys Gly Lys Leu Ile Ala Asn Gly Asp Glu Val Tyr Ile  
                     1                      5                      10                      15  
 Ala Glu Asp Gly Leu Phe His Ser Val Lys Ser Asn Thr Ile Ala Gly  
                     20                      25                      30  
 Ser Thr Leu Thr Met Ile Gln Gly Leu Lys Asn Leu Ile Glu Phe Gly  
                     35                      40                      45  
 Phe Ser Leu Ser Asp Ala Val Gln Ala Ser Ser Tyr Asn Pro Thr Arg  
                     50                      55                      60  
 Ile Leu Asn Ile Asp Lys Lys Gly Leu Ile Cys His Gly Tyr Asp Ala  
                     65                      70                      75                      80  
 Asn Leu Asn Val Leu Asp Lys Asp Phe Asn Leu Lys Leu Thr Met Ile  
                     85                      90                      95  
 Glu Ser Lys Ile Ile Phe Asn Asn Leu  
                     100                      105

<210> 447  
 <211> 381  
 <212> DNA  
 <213> Homo sapiens

<400> 447  
 atgcttagaa agcttaaaga tataagtaaa atagtccttg taactgacgg acttactccg 60  
 aattgtcaaaa cttgtggaaa actaattgca aacggagacg aagtttatat tgcagaagat 120  
 ggattattcc atagcgtgaa aagcaacaca atagctggat caacactcac aatgatacaa 180  
 ggtcttaaaa atttaataga atttggtttc agcttaagcg atgctgttca agcaagctct 240

tacaatccaa caagaattct caatattgat aaaaagggct taatatgtca tggatatgat 300  
gcaaacctca atgtcctaga taaagatttt aatctaaagt taacaatgat agaatctaaa 360  
ataattttta acaatctcta a 381

<210> 448  
<211> 318  
<212> DNA  
<213> Homo sapiens

<400> 448  
tgtcaaactt gtggaaaact aattgcaaac ggagacgaag tttatattgc agaagatgga 60  
ttattccata gcgtgaaaag caacacaata gctggatcaa cactcacaat gatacaaggt 120  
cttaaaaatt taatagaatt tggtttcagc ttaagcgatg ctgttcaagc aagctcttac 180  
aatccaacaa gaattctcaa tattgataaa aagggcttaa tatgtcatgg atatgatgca 240  
aacctcaatg tcctagataa agattttta cttaaagttaa caatgataga atctaaaata 300  
atttttaaca atctctaa 318

<210> 449  
<211> 230  
<212> PRT  
<213> Homo sapiens

<400> 449  
Met Lys Ile Leu Trp Leu Ile Ile Leu Val Asn Leu Phe Leu Ser Cys  
1 5 10 15

Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg Glu  
20 25 30

Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr Lys  
35 40 45

Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn Ser  
50 55 60

Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe Phe  
65 70 75 80

Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn Leu  
85 90 95

Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val Ala  
100 105 110

Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu Lys  
115 120 125

Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile Arg  
130 135 140

Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val Tyr  
145 150 155 160

Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu Gly  
165 170 175

Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala Asn  
180 185 190

Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp Lys



195                      200                      205  
 Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser Arg  
     210                      215                      220  
  
 Ile Met Ser Asn Leu Lys  
 225                      230  
  
 <210> 450  
 <211> 215  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 450  
 Cys Gly Asn Glu Ser Lys Glu Lys Ser Asn Leu Gly Leu Arg Leu Arg  
     1                      5                      10                      15  
  
 Glu Leu Glu Ile Ser Gly Gly Gly Ser Glu Ser Lys Ile Glu Val Tyr  
                     20                      25                      30  
  
 Lys Glu Phe Ile Glu Lys Glu Asp Lys Asn Ile Leu Lys Ile Val Asn  
                     35                      40                      45  
  
 Ser Ile Asp Lys Lys Ala Arg Phe Phe Asn Leu Ile Gly Leu Glu Phe  
     50                      55                      60  
  
 Phe Lys Leu Gly Gln Tyr Gly Pro Ala Ile Glu Tyr Phe Ala Lys Asn  
     65                      70                      75                      80  
  
 Leu Glu Ile Asn Pro Asn Asn Tyr Leu Ser His Phe Tyr Ile Gly Val  
                     85                      90                      95  
  
 Ala Ser Tyr Asn Leu Ala Lys Asn Leu Arg Val Lys Asp Glu Val Glu  
                     100                      105                      110  
  
 Lys Tyr Ile Ile Leu Ala Glu Asn Ser Phe Leu Lys Ser Leu Ser Ile  
     115                      120                      125  
  
 Arg Asp Asp Phe Lys Asp Ser Leu Phe Ala Ile Ser Asn Met Tyr Val  
     130                      135                      140  
  
 Tyr Asp Leu Asp Lys Gln Leu Glu Ala Lys Asn Tyr Leu Asn Lys Leu  
     145                      150                      155                      160  
  
 Gly Asp Met Gly Glu Asp Tyr Phe Glu Phe Leu Met Leu Arg Gly Ala  
                     165                      170                      175  
  
 Asn Tyr Tyr Ser Leu Gly Asp Leu Gly Asn Ala Ile Leu Phe Tyr Asp  
                     180                      185                      190  
  
 Lys Ala Ser Lys Lys Ala Ser Thr Glu Glu Gln Lys Glu Gly Val Ser  
     195                      200                      205  
  
 Arg Ile Met Ser Asn Leu Lys  
     210                      215  
  
 <210> 451  
 <211> 693  
 <212> DNA  
 <213> Homo sapiens

<400> 451  
atgaaaattt tgtgggtaat aattcttgtt aattttatatt tatcttgtgg caatgaatct 60  
aaagaaaaat caaatcttgg tcttagatta agagaattgg aaatttcagg tgggtggatct 120  
gaatctaaga ttgaagttta taaagaattt attgaaaaag aagataagaa tatttttaaag 180  
atagtttaatt ccattgataa gaaagccaga ttttttaatt taattgggtct tgaatttttt 240  
aagcttggtc agtacggacc tgctattgaa tattttgcta aaaatttaga aatcaatccc 300  
aataattatt tatctcattt ttatataggt gttgcttctt ataatttagc taaaaattta 360  
agagtaaaag atgaagtga aaaatacata attcttgctg aaaattcctt tttaaaatca 420  
ctttcaatta gagatgattt taaagattct ctttttgcca tttctaatat gtacgtatat 480  
gatcttgata aacaacttga agctaaaaat tatttaaata aacttggtga tatgggtgag 540  
gactattttg agtttttaat gttaagaggt gcaaattatt attcgctggg cgatcttggg 600  
aatgctatat tgttttatga taaagctagt aaaaaggctt caactgaaga gcaaaaagaa 660  
ggtgtttcta ggatcatgag taatttgaag taa 693

<210> 452  
<211> 648  
<212> DNA  
<213> Homo sapiens

<400> 452  
tgtggcaatg aatctaaaga aaaatcaaatt cttgggtctta gattaagaga attggaaatt 60  
tcagggtggg gatctgaatc taagattgaa gtttataaag aattttattga aaaagaagat 120  
aagaatattt taaagatagt taattccatt gataagaaag ccagattttt taattttaatt 180  
ggtcttgaat tttttaagct tggtcagtac ggacctgcta ttgaatattt tgctaaaaat 240  
ttagaaatca atcccaataa ttatttatct catttttata taggtgttgc ttcttataat 300  
ttagctaaaa atttaagagt aaaagatgaa gttgaaaaat acataattct tgctgaaaaat 360  
tcttttttaa aatcactttc aattagagat gatttttaag attctctttt tgccatttct 420  
aatatgtacg tatatgatct tgataaaciaa cttgaagcta aaaattattt aaataaactt 480  
ggtgatattg gtgaggacta ttttgagttt ttaatgttaa gaggtgcaaa ttattattcg 540  
ctgggcatc ttggtaatgc tatattgttt tatgataaag ctagtaaaaa ggcttcaact 600  
gaagagcaaa aagaaggtgt ttctaggatc atgagtaatt tgaagtaa 648

<210> 453  
<211> 265  
<212> PRT  
<213> Homo sapiens

<400> 453  
Met Asn Asn Cys Leu Ile Lys Phe Phe Ile Phe Leu Leu Val Phe Ser  
1 5 10 15  
Asn Ser Tyr Val Ala Phe Ser Lys Asn Val Asn Val Leu Ile Val Thr  
20 25 30  
Ala Met Asp Ser Glu Phe Asp Gln Ile Asn Lys Leu Met Ser Asn Lys  
35 40 45  
Glu Glu Ile Val Leu Lys Glu Tyr Gly Leu Asn Lys Lys Ile Leu Lys  
50 55 60  
Gly Lys Leu Ser Asn Arg Asn Val Met Val Ile Ile Cys Gly Val Gly  
65 70 75 80  
Lys Val Asn Ala Gly Val Trp Thr Ser Tyr Ile Leu Ser Lys Tyr Asn  
85 90 95  
Ile Ser His Val Ile Asn Ser Gly Val Ala Gly Gly Val Val Ser Ala  
100 105 110

Lys Tyr Lys Asp Ile Lys Val Gly Asp Val Val Val Ser Ser Glu Val  
 115 120 125

Ala Tyr His Asp Val Asp Leu Thr Lys Phe Gly Tyr Lys Val Gly Gln  
 130 135 140

Leu Thr Gly Gly Leu Pro Gln Lys Phe Asn Ala Asn Lys Asn Leu Ile  
 145 150 155 160

Lys Asn Ala Ile Glu Ala Ile Lys Ser Lys Val Gly Gly Ser Asn Ala  
 165 170 175

Tyr Ser Gly Leu Ile Val Ser Gly Asp Gln Phe Ile Asp Pro Thr Tyr  
 180 185 190

Ile Asn Lys Ile Ile Gly Asn Phe Lys Asp Val Ile Ala Val Glu Met  
 195 200 205

Glu Gly Ala Ala Ile Gly His Val Ser His Met Phe Asn Ile Pro Phe  
 210 215 220

Ile Val Ile Arg Ser Ile Ser Asp Ile Val Asn Lys Glu Gly Asn Glu  
 225 230 235 240

Val Glu Tyr Ser Lys Phe Ser Lys Ile Ala Ala Phe Asn Ser Ala Lys  
 245 250 255

Val Val Gln Glu Ile Leu Arg Lys Leu  
 260 265

<210> 454  
 <211> 242  
 <212> PRT  
 <213> Homo sapiens

<400> 454  
 Lys Asn Val Asn Val Leu Ile Val Thr Ala Met Asp Ser Glu Phe Asp  
 1 5 10 15

Gln Ile Asn Lys Leu Met Ser Asn Lys Glu Glu Ile Val Leu Lys Glu  
 20 25 30

Tyr Gly Leu Asn Lys Lys Ile Leu Lys Gly Lys Leu Ser Asn Arg Asn  
 35 40 45

Val Met Val Ile Ile Cys Gly Val Gly Lys Val Asn Ala Gly Val Trp  
 50 55 60

Thr Ser Tyr Ile Leu Ser Lys Tyr Asn Ile Ser His Val Ile Asn Ser  
 65 70 75 80

Gly Val Ala Gly Gly Val Val Ser Ala Lys Tyr Lys Asp Ile Lys Val  
 85 90 95

Gly Asp Val Val Val Ser Ser Glu Val Ala Tyr His Asp Val Asp Leu  
 100 105 110

Thr Lys Phe Gly Tyr Lys Val Gly Gln Leu Thr Gly Gly Leu Pro Gln  
 115 120 125

Lys Phe Asn Ala Asn Lys Asn Leu Ile Lys Asn Ala Ile Glu Ala Ile  
 130 135 140  
 Lys Ser Lys Val Gly Gly Ser Asn Ala Tyr Ser Gly Leu Ile Val Ser  
 145 150 155 160  
 Gly Asp Gln Phe Ile Asp Pro Thr Tyr Ile Asn Lys Ile Ile Gly Asn  
 165 170 175  
 Phe Lys Asp Val Ile Ala Val Glu Met Glu Gly Ala Ala Ile Gly His  
 180 185 190  
 Val Ser His Met Phe Asn Ile Pro Phe Ile Val Ile Arg Ser Ile Ser  
 195 200 205  
 Asp Ile Val Asn Lys Glu Gly Asn Glu Val Glu Tyr Ser Lys Phe Ser  
 210 215 220  
 Lys Ile Ala Ala Phe Asn Ser Ala Lys Val Val Gln Glu Ile Leu Arg  
 225 230 235 240

Lys Leu

<210> 455  
 <211> 798  
 <212> DNA  
 <213> Homo sapiens

<400> 455  
 atgaataatt gtttaataaa gttttttatt tttttattag ttttttcaaa cagttatggt 60  
 gctttttcta aaaatgtcaa tgttttaata gtaactgcta tggactctga gtttgatcag 120  
 ataaataagc ttatgtctaa taaggaagaa atagttctta aggagtatgg tcttaataaa 180  
 aagattttta aggggaagtt gtctaatacgc aatggttatgg ttattatttg tgggggttgg 240  
 aagggttaatg ctggtgtgtg gactagctac attttgtcaa aatacaacat aagtcatgtc 300  
 attaattctg gcgttgctgg tggcgttggt agtgctaaat acaaagatat taaagtggga 360  
 gatgtggtgg tgtcttcaga ggttgcatat catgatgttg atttgactaa atttggtac 420  
 aaggtaggac agcttacagg aggattgcct caaaaattta atgccaataa aaatttaatt 480  
 aagaatgcca tagaggccat taaatcaaag gttggaggtt ctaatgcata ttcaggatta 540  
 atagtttcag gagatcagtt tattgatcca acctatatta acaaaattat aggaaacttt 600  
 aaagatgtaa tagctgttga gatggaaggt gcagcaatag ggcattgttt tcatatgttt 660  
 aatatacctt ttatagttat taggtcaata tctgacattg taaataaaga aggggaatgag 720  
 gttgaatata gtaaattttc taaaatagct gctttcaatt cagccaaagt tgtacaagaa 780  
 attttaagaa aactttaa 798

<210> 456  
 <211> 729  
 <212> DNA  
 <213> Homo sapiens

<400> 456  
 aaaaatgtca atgttttaat agtaactgct atggactctg agtttgatca gataaataag 60  
 cttatgtcta ataaggaaga aatagttcct aaggagtatg gtcttaataa aaagatttta 120  
 aaggggaagt tgtctaatac caatgttatg gttattattt gtgggggttg taagggtta 180  
 gctggtgtgt ggactagcta cattttgtca aaatacaaca taagtcatgt cattaattct 240  
 ggcgttgctg gtggcgttgt tagtgctaaa tacaagata ttaaagtggg agatgtggtg 300  
 gtgtcttcag aggttgcata tcatgatgtt gatttgacta aatttgata caaggtagga 360  
 cagcttacag gaggattgcc tcaaaaattt aatgccaata aaaatttaat taagaatgcc 420  
 atagaggcca ttaaatacaa ggttgagggt tctaatacat attcaggatt aatagtttca 480  
 ggagatcagt ttattgatcc aacttatatt aacaaaatta taggaaactt taaagatgta 540

atagctgttg agatggaagg tgcagcaata gggcatgttt ctcatatggt taatatacct 600  
 tttatagtta ttaggtcaat atctgacatt gtaaataaaag aagggaatga gggtgaatat 660  
 agtaaaatatt ctaaaatagc tgctttcaat tcagccaaag ttgtacaaga aattttaaga 720  
 aaacttttaa 729

<210> 457  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 457  
 Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15  
 Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys  
 20 25 30  
 Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
 35 40 45  
 Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
 50 55 60  
 Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
 65 70 75 80  
 Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
 85 90 95  
 Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
 100 105 110  
 Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
 115 120

<210> 458  
 <211> 108  
 <212> PRT  
 <213> Homo sapiens

<400> 458  
 Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
 1 5 10 15  
 Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
 20 25 30  
 Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
 35 40 45  
 Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
 50 55 60  
 Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
 65 70 75 80  
 Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
 85 90 95  
 Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys

<210> 459  
 <211> 372  
 <212> DNA  
 <213> Homo sapiens

<400> 459  
 atgaatacaa aaacattata tttaatatcc ttaattcttt tagcttgcaa taaaaataac 60  
 aaaattcctc tcattcaaaa attagatttg cccaaaagca gcattcttgg cttagcaat 120  
 aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180  
 gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240  
 aactagaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300  
 ggaactaaaa gatacatctt tagcaaagac atcaatatag tcaacaattt aataattgat 360  
 cattctaaat ag 372

<210> 460  
 <211> 327  
 <212> DNA  
 <213> Homo sapiens

<400> 460  
 tgcaataaaa ataacaaaat tcctctcatt caaaaattag atttgcccaa aagcagcatt 60  
 cttggcttta gcaataaaaat gggcataata ataaaagatt atgcttttct tagtaaaagc 120  
 actaagaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180  
 gtaaaaattg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240  
 ctagtcaatt acaagggaac taaaagatac atcttttagca aagacatcaa tatagtcaac 300  
 aatttaataa ttgatcattc taaatag 327

<210> 461  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens

<400> 461  
 Met Lys Ser Ile Tyr Ala Leu Leu Phe Leu Phe Ile Asn Leu Ser Leu  
 1 5 10 15  
 Leu Ala Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile  
 20 25 30  
 Ala Gln Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro  
 35 40 45  
 Ile Gln Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn  
 50 55 60  
 Asn Leu Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr  
 65 70 75 80  
 Lys Ile Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn  
 85 90 95  
 Leu Gly Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu  
 100 105 110  
 Ile Arg Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile  
 115 120 125  
 Lys Ser Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr

130                      135                      140  
 Asn Val Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile  
 145                      150                      155                      160  
 Pro Gly His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn  
                     165                      170                      175  
 Ile Asp Asp Asn Leu Leu Asn Thr Lys Glu Gly Lys Trp Leu Tyr Glu  
                     180                      185                      190  
 Asn Ser Leu Lys Tyr Gly Phe Ser Val Ser Tyr Pro Lys Gly Tyr Glu  
                     195                      200                      205  
 Thr Asp Thr Gly Tyr Lys Ala Glu Pro Trp His Tyr Leu Tyr Ile Gly  
                     210                      215                      220  
 Pro Lys Pro Cys Phe Ile Gln Lys Lys Tyr Phe Asn Asn Leu Gln His  
 225                      230                      235                      240  
 Lys Leu Leu Glu Phe Trp Asn Gln Asn Lys Thr Asn Leu Ile Asn Leu  
                     245                      250                      255  
 Ile Glu Lys Tyr Ala Asn  
                     260

<210> 462  
 <211> 244  
 <212> PRT  
 <213> Homo sapiens

<400> 462  
 Asn Asn Ile Ser Lys Lys Asp Leu Glu Val Leu Leu Lys Ile Ala Gln  
 1                      5                      10                      15  
 Ala Met Asn Lys Glu Cys Lys Asn Phe Ile Glu Lys Asn Pro Ile Gln  
                     20                      25                      30  
 Phe Leu Lys Glu Ile Lys Pro Leu Val Asp Ala Glu Lys Asn Asn Leu  
                     35                      40                      45  
 Leu Thr Leu Ile Asn Lys Lys Ile Pro Ile Pro Glu Asn Tyr Lys Ile  
                     50                      55                      60  
 Pro Asp Leu Val Asn Ile Asp Asp Phe Glu Asp Leu Lys Asn Leu Gly  
 65                      70                      75                      80  
 Ala Lys Thr Ile Lys Val Arg Lys Ile Leu Ile Glu Asp Leu Ile Arg  
                     85                      90                      95  
 Leu Ile Lys Asp Ala Lys Lys Phe Gly Ile Glu Ile Lys Ile Lys Ser  
                     100                      105                      110  
 Ala Tyr Arg Thr Gln Glu Tyr Gln Lys Phe Leu Phe Asp Tyr Asn Val  
                     115                      120                      125  
 Lys Thr Tyr Gly Arg Lys Val Ala Glu Thr Gln Ser Ala Ile Pro Gly  
                     130                      135                      140  
 His Ser Gln His His Met Gly Thr Ala Ile Asp Phe Ile Asn Ile Asp





<210> 465  
 <211> 181  
 <212> PRT  
 <213> Homo sapiens

<400> 465

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Met Leu Tyr Leu Gly Asp Asn Lys Ala Met Arg Thr Lys Ile Ile Ile
 1           5           10           15

Met Thr Ile Ile Ile Leu Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser
          20           25           30

Lys Glu Ser Ala Arg Gly Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu
          35           40           45

Pro Ile Ala Leu Gln Ile Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly
          50           55           60

Leu Tyr Ser Gly Val Asn Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe
          65           70           75           80

Ile Ala Leu Asp Tyr Ile Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala
          85           90           95

Asn Ile Leu Asp Phe Ser Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp
          100          105          110

Phe Ser Arg Phe Gly Gly Ser Lys Ser Gly Ser Gly Pro Met Ser Ile
          115          120          125

Gly Ala Arg Leu Pro Leu Ala Leu Asn Ile Ala Val Phe Arg Lys Lys
          130          135          140

Phe Asp Ile Phe Leu Arg Ile Ala Pro Gly Leu Gly Met Asn Val Trp
          145          150          155          160

Ser Asn Gly Val Gly Phe Arg Trp Glu Val Phe Ala Gly Leu Gly Leu
          165          170          175

Arg Phe Trp Phe Thr
          180
  
```

<210> 466  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<400> 466

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Leu Ala Pro Ile Ser Gly Phe Ser Asn Ser Lys Glu Ser Ala Arg Gly
 1           5           10           15

Lys Phe Gly Ala Gly Ile Ile Leu Pro Leu Pro Ile Ala Leu Gln Ile
          20           25           30

Asn Ile Gly Asn Phe Asp Leu Asp Ile Gly Leu Tyr Ser Gly Val Asn
          35           40           45

Asn Leu Phe Ser Asp Trp Lys Thr Leu Phe Ile Ala Leu Asp Tyr Ile
          50           55           60
  
```

Phe Tyr Ile Tyr Thr Phe Pro Gly Ala Ala Asn Ile Leu Asp Phe Ser  
65 70 75 80

Val Gly Ala Gly Gly Tyr Gly Thr Ile Trp Phe Ser Arg Phe Gly Gly  
85 90 95

Ser Lys Ser Gly Ser Gly Pro Met Ser Ile Gly Ala Arg Leu Pro Leu  
100 105 110

Ala Leu Asn Ile Ala Val Phe Arg Lys Lys Phe Asp Ile Phe Leu Arg  
115 120 125

Ile Ala Pro Gly Leu Gly Met Asn Val Trp Ser Asn Gly Val Gly Phe  
130 135 140

Arg Trp Glu Val Phe Ala Gly Leu Gly Leu Arg Phe Trp Phe Thr  
145 150 155

<210> 467

<211> 546

<212> DNA

<213> Homo sapiens

<400> 467

atgctatact taggagataa taaagcaatg agaacaaaaa taattattat gacaattatt 60  
atatttattag cccaatctc aggatatttct aattcaaaaag aatctgcaag gggtaaattt 120  
ggagcaggaa ttatacttcc attaccaatt gctctacaga ttaatatagg aaactttgat 180  
cttgacattg gtctttacag cggagtaaatt aatttgtttt cagactggaa aacattattt 240  
atagcattag actatatttt ctacatatat acattcccgg gagctgctaa tattttggat 300  
ttttcagttg gcgcaggggg atatggaaca atatggtttt caagatttgg aggcagtaag 360  
tcaggctcag gaccaatgag cattggagca agattgcctt tggccttaaa tattgcagta 420  
tttaggaaga aattcgacat atttttacga atagcaccgg gacttggaat gaatgtttgg 480  
agtaattggcg ttggatttag atgggaagta ttcgcaggat tgggactaag attctggttt 540  
acttaa 546

<210> 468

<211> 480

<212> DNA

<213> Homo sapiens

<400> 468

ttagcccca tctcaggatt ttctaattca aaagaatctg caaggggtaa atttgagca 60  
ggaattatac ttccattacc aattgctcta cagattaata taggaaactt tgatcttgac 120  
attggtcttt acagcggagt aaataatttg ttttcagact ggaaaacatt atttatagca 180  
ttagactata ttttctacat atacacattc ccgggagctg ctaatatattt ggatttttca 240  
gttggcgcag ggggatattg aacaatatgg ttttcaagat ttggaggcag taagtcaggc 300  
tcaggaccaa tgagcattgg agcaagattg cctttggcct taaatattgc agtatttagg 360  
aagaaattcg acatattttt acgaatagca cccggacttg gaatgaatgt ttggagtaat 420  
ggcgttggat ttagatggga agtattcgca ggattgggac taagattctg gtttacttaa 480

<210> 469

<211> 209

<212> PRT

<213> Homo sapiens

<400> 469

Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser  
1 5 10 15

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
                   20                                  25                                  30  
 Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
                   35                                  40                                  45  
 Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
                   50                                  55                                  60  
 Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
                   65                                  70                                  75                                  80  
 Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
                                   85                                  90                                  95  
 Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
                                   100                                  105                                  110  
 Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
                                   115                                  120                                  125  
 Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr  
                   130                                  135                                  140  
 Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys  
                   145                                  150                                  155                                  160  
 Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu  
                                   165                                  170                                  175  
 Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr  
                                   180                                  185                                  190  
 Asn Asp Glu Ile Glu Glu Gln Met Arg Thr Ile Thr Leu Leu Met Lys  
                   195                                  200                                  205

Glu

<210> 470  
 <211> 193  
 <212> PRT  
 <213> Homo sapiens

<400> 470  
 Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
                   1                                  5                                  10                                  15  
 Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
                   20                                  25                                  30  
 Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
                   35                                  40                                  45  
 Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
                   50                                  55                                  60  
 Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
                   65                                  70                                  75                                  80



<211> 552  
 <212> PRT  
 <213> Homo sapiens

<400> 473  
 Met Gln Ile Asp Gly Lys Ile Tyr Ser Ile Ile Ser Phe Pro Val Arg  
     1                    5                    10                    15  
 Asp Ser Val Ser Thr Leu Gly Val Ile Gly Ile Leu Ile Cys Phe Asp  
                     20                    25                    30  
 Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser Leu Lys Phe  
             35                    40                    45  
 Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn Tyr Met Pro  
             50                    55                    60  
 Ile Phe Ser Asn Leu Asn Asn Leu Gln Ala Lys Ser Phe Ser Thr Ala  
             65                    70                    75                    80  
 Tyr Ser Glu Asn Phe Leu Ser Lys Val Ile Ala Tyr Ala Lys Lys Asp  
                     85                    90                    95  
 Ser Ser Ser Ser Gln Tyr Thr Phe Asn Tyr Glu Arg Asp Phe Tyr Ser  
                     100                    105                    110  
 Leu Asn Phe Val Lys Thr Asp Asp Phe Leu Thr Gln Gly Leu Ile Leu  
             115                    120                    125  
 Asn Val Asn Ser Ile Pro Ile Met Phe Lys Ser Asn Trp Val Ile Phe  
             130                    135                    140  
 Val Ala Phe Leu Leu Leu Ser Phe Ala Ile Ile Phe Tyr Leu Cys Asn  
             145                    150                    155                    160  
 Thr Phe Val Phe Ser Leu Ile Asn Asp Phe Asn Arg Ile Val Asp Tyr  
                     165                    170                    175  
 Gln Lys Ser Lys Ser Asp Pro Phe Ser Leu Glu Ser Pro Leu Glu Val  
                     180                    185                    190  
 Lys Tyr Ser Ser Ser Ile Ile Ser Tyr Ile Ser Ser Lys Leu Asp Asn  
             195                    200                    205  
 Leu Ser Ser Lys Ser Asn Glu Ser Phe Glu Lys Ile Lys Phe Tyr Ser  
             210                    215                    220  
 Glu Asp Leu Asn Glu Tyr Leu Glu Gln Ile Glu Thr Ala Ile Ser Asn  
             225                    230                    235                    240  
 Thr Glu Ser Ile Asp Ser Ser Ile Leu Val Tyr Glu Gln Leu Arg Asp  
                     245                    250                    255  
 Thr Phe Ser Arg Phe Glu Lys Ser Ile Val Asp Ile Leu Lys Gly Phe  
                     260                    265                    270  
 Glu Ser Ile Ala Asp Pro Ile Asn Asp His Asn Lys Tyr Ile Ser Glu  
             275                    280                    285  
 Ile Ser Ser Asn Phe Glu Glu Ser Val Ser Phe Phe Tyr Ser Ile Asp

290	295	300
Lys Asn Leu Glu Ile Phe Asn Lys Val Ala Thr Ile Asn Ser Thr Asp 305 310 315 320		
Ile Glu Asn Ile Lys Ser Lys Val Phe Asp Leu Asn Ile Val Phe Glu 325 330 335		
Asn Val Asn Lys Asn Phe Ala Asp Leu Leu Ser Gln Thr Asn Ser Leu 340 345 350		
Gln Ser Val Asn Lys Leu Leu Val Ser Ile Ser Ala Gln Thr Asn Met 355 360 365		
Leu Ala Met Asn Ala Ala Ile Glu Ala Ala Lys Ala Gly Asp Ala Gly 370 375 380		
Lys Ser Phe Ala Val Val Ala Glu Glu Ile Arg Lys Leu Ala Ile Asn 385 390 395 400		
Ser Gly Lys Tyr Ser Lys Thr Ile Lys Asp Glu Leu Lys Thr Val Asp 405 410 415		
Ser Ile Ile Ala Val Ile Asn Ser Glu Ile Asp Thr Ile Tyr Lys Asn 420 425 430		
Phe Ile Asp Ile Gln Asp Asn Val Asp Asn Asn Phe Ser Arg His Glu 435 440 445		
Lys Val Asp Leu Thr Leu Ala Lys His Phe Lys Glu Ile Gly Glu Phe 450 455 460		
Lys Glu Arg Tyr Leu Ser His Asp Thr Lys Ile Arg Asp Ala Lys Asn 465 470 475 480		
Met Tyr Lys Glu Ile Phe Asn Asn His Tyr Phe Ile Ser Gly Lys Phe 485 490 495		
Asn Asn Phe Ser Gln Asp Leu Lys Glu Phe Lys Val Ser Lys Met Asn 500 505 510		
Leu Asp Ala Val Ser Ser Leu Gln Glu Tyr Ser Ser Leu Val Lys Ser 515 520 525		
Ser Lys Asp Lys Ile Leu Lys Thr Lys Glu Leu Ile Gln Lys Ile Asn 530 535 540		
Asp Glu Ile Lys Asp Ile Leu Phe 545 550		

<210> 474  
 <211> 523  
 <212> PRT  
 <213> Homo sapiens

<400> 474  
 Cys Phe Asp Glu Ser Leu Asp Ile Ile Glu Asn Gln Leu Tyr Ser Ser  
 1 5 10 15

Leu Lys Phe Gly Ser Lys Asn Tyr Asn Phe Phe Met Leu Asp Arg Asn  
 360

20										25					30															
Tyr	Met	Pro	Ile	Phe	Ser	Asn	Leu	Asn	Asn	Leu	Gln	Ala	Lys	Ser	Phe															
		35					40					45																		
Ser	Thr	Ala	Tyr	Ser	Glu	Asn	Phe	Leu	Ser	Lys	Val	Ile	Ala	Tyr	Ala															
	50					55					60																			
Lys	Lys	Asp	Ser	Ser	Ser	Ser	Gln	Tyr	Thr	Phe	Asn	Tyr	Glu	Arg	Asp															
	65				70					75					80															
Phe	Tyr	Ser	Leu	Asn	Phe	Val	Lys	Thr	Asp	Asp	Phe	Leu	Thr	Gln	Gly															
				85				90						95																
Leu	Ile	Leu	Asn	Val	Asn	Ser	Ile	Pro	Ile	Met	Phe	Lys	Ser	Asn	Trp															
			100					105					110																	
Val	Ile	Phe	Val	Ala	Phe	Leu	Leu	Leu	Ser	Phe	Ala	Ile	Ile	Phe	Tyr															
		115					120					125																		
Leu	Cys	Asn	Thr	Phe	Val	Phe	Ser	Leu	Ile	Asn	Asp	Phe	Asn	Arg	Ile															
	130					135					140																			
Val	Asp	Tyr	Gln	Lys	Ser	Lys	Ser	Asp	Pro	Phe	Ser	Leu	Glu	Ser	Pro															
	145				150				155					160																
Leu	Glu	Val	Lys	Tyr	Ser	Ser	Ser	Ile	Ile	Ser	Tyr	Ile	Ser	Ser	Lys															
			165					170						175																
Leu	Asp	Asn	Leu	Ser	Ser	Lys	Ser	Asn	Glu	Ser	Phe	Glu	Lys	Ile	Lys															
			180					185					190																	
Phe	Tyr	Ser	Glu	Asp	Leu	Asn	Glu	Tyr	Leu	Glu	Gln	Ile	Glu	Thr	Ala															
		195				200					205																			
Ile	Ser	Asn	Thr	Glu	Ser	Ile	Asp	Ser	Ser	Ile	Leu	Val	Tyr	Glu	Gln															
	210					215					220																			
Leu	Arg	Asp	Thr	Phe	Ser	Arg	Phe	Glu	Lys	Ser	Ile	Val	Asp	Ile	Leu															
	225				230					235					240															
Lys	Gly	Phe	Glu	Ser	Ile	Ala	Asp	Pro	Ile	Asn	Asp	His	Asn	Lys	Tyr															
			245					250					255																	
Ile	Ser	Glu	Ile	Ser	Ser	Asn	Phe	Glu	Glu	Ser	Val	Ser	Phe	Phe	Tyr															
		260					265						270																	
Ser	Ile	Asp	Lys	Asn	Leu	Glu	Ile	Phe	Asn	Lys	Val	Ala	Thr	Ile	Asn															
	275						280					285																		
Ser	Thr	Asp	Ile	Glu	Asn	Ile	Lys	Ser	Lys	Val	Phe	Asp	Leu	Asn	Ile															
	290					295					300																			
Val	Phe	Glu	Asn	Val	Asn	Lys	Asn	Phe	Ala	Asp	Leu	Leu	Ser	Gln	Thr															
	305				310				315					320																
Asn	Ser	Leu	Gln	Ser	Val	Asn	Lys	Leu	Leu	Val	Ser	Ile	Ser	Ala	Gln															
			325					330					335																	
Thr	Asn	Met	Leu	Ala	Met	Asn	Ala	Ala	Ile	Glu	Ala	Ala	Lys	Ala	Gly															





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ggatgatgcag gtaaaagttt tgcagttggt gctgaggaga ttagaaagct tgctattaat 1200
tctggaaaat attctaaaac cattaaagat gaacttaaaa cggtcgacag cattattgca 1260
gtaattaatt cagagattga tacaatttat aaaaatttca tagacattca agataatgtg 1320
gacaacaatt tttcaagaca cgagaaagta gatcttactc ttgctaagca ttttaaagaa 1380
attggcgagt ttaaagaaaag gtatttgtct cacgatacta agatcagaga tgctaagaat 1440
atgtataaag aaatatttaa taatcattat tttattagtg gcaagtttaa caactttagt 1500
caagatttaa aagagtttaa agtttctaag atgaatttag atgcggttaag ttctcttcaa 1560
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<210> 476  
 <211> 1572  
 <212> DNA  
 <213> Homo sapiens

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agtaaaaatt ataatttttt tatgcttgac agaaattaca tgcccatttt ttcaaacctt 120
aataatcttc aggccaaatc tttttctaca gcttatagtg agaatttttt gagtaaagtt 180
atagcttatg ctaaaaaaga ttcttctagc tctcagtaca cttttaatta tgaaagagat 240
ttttattctt taaactttgt aaaaaccgat gattttttga ctcaggggct tattttaaat 300
gtcaattcca ttcttattat gtttaaatca aattgggtta tatttggtgc atttttatta 360
ttgtcttttg caattatttt ttatttatgc aatacttttg ttttttcatt aattaatgat 420
tttaacagaa ttgttgacta tcaaaaatca aaaagcgcac ctttttagtct tgaatctccc 480
ttagagggtta agtattcttc atctattatt tcttatatta gttcaaagct agataatctg 540
tcttctaaga gtaatgaatc ttttgagaag ataaaatttt attctgaaga tttgaatgaa 600
tatttggaac aaatagaaac tgctatatca aatactgaga gtatagattc tagcatttta 660
gtttacgaac aactaagaga tactttttct agatttgaaa aatcaattgt tgatatttta 720
aaaggctttg aatctattgc tgatccgatt aatgatcaca ataaatatat atcagaaatc 780
tcttcaaatt ttgaagagag tgttagtttt ttctatagta tagataaaaa ttagaaatt 840
tttaataagg ttgctactat aaattctact gatattgaaa atattaaaag taagggtttt 900
gatttaaata ttgtttttga aaatgtgaat aaaaattttg cagatctttt gtctcaaaca 960
aatagtttgc aaagtgtaaa taaactttta gtttcaattt cagctcagac caatattgctt 1020
gctatgaatg cagcaattga agcagcaaaa gcagggtgat caggtaaaaag ttttgcagtt 1080
gttgctgagg agattagaaa gcttgctatt aattctggaa aatattctaa aaccattaaa 1140
gatgaactta aaacggtcga cagcattatt gcagtaatta attcagagat tgatacaatt 1200
tataaaaatt tcatagacat tcaagataat gtggacaaca atttttcaag acacgagaaa 1260
gtagatctta ctcttgctaa gcatttttaa gaaattggcg agtttaaaga aagggtatttg 1320
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tattttatta gtggcaagtt taacaacttt agtcaagatt taaaagagtt taaagtttct 1440
aagatgaatt tagatgcggt aagttctctt caagaatatt catcttttagt aaagtcttct 1500
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attctttttt ag 1572

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<210> 477  
 <211> 166  
 <212> PRT  
 <213> Homo sapiens

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<400> 477
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Gly Asp Gly Ile Ala Ile Leu Pro Thr Ser Asn Glu Leu Leu Ala Pro
      20             25            30

Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser
      35             40            45

Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn

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50                      55                      60  
 Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly  
 65                      70                      75                      80  
 Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr  
 85                      90                      95  
 Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn  
 100                      105                      110  
 Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
 115                      120                      125  
 Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
 130                      135                      140  
 Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
 145                      150                      155                      160  
 Val Leu Arg Val Lys Lys  
 165

<210> 478  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 478  
 Cys Asp Gly Lys Ile Gly Lys Ile Phe Lys Thr Asn His Ala Phe Ser  
 1                      5                      10                      15  
 Leu Glu Thr Lys Glu Gly Val Glu Ile Phe Val His Phe Gly Ile Asn  
 20                      25                      30  
 Thr Leu Asn Leu Asn Gly Lys Gly Phe Thr Arg Val Ala Glu Glu Gly  
 35                      40                      45  
 Ile Asn Val Lys Gln Gly Glu Val Ile Ile Arg Leu Asp Leu Glu Tyr  
 50                      55                      60  
 Leu Lys Glu His Ser Glu Ser Val Ile Thr Pro Val Val Ile Ala Asn  
 65                      70                      75                      80  
 Ser Asp Glu Val Ser Ser Ile Glu Tyr Ser Phe Gly Arg Leu Glu Asn  
 85                      90                      95  
 Asp Ser Glu Tyr Ile Leu Ser Ser Ser Thr Val Leu Thr Glu Glu Ile  
 100                      105                      110  
 Arg His Lys Ile Ser Gln Thr Lys Pro Val Ile Ala Gly Lys Asp Leu  
 115                      120                      125  
 Val Leu Arg Val Lys Lys  
 130

<210> 479  
 <211> 501  
 <212> DNA  
 <213> Homo sapiens

<400> 479  
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tttaaaacca atcatgcctt tagccttgaa actaaagagg gcgttgaaat ttttgtccat 180  
tttgaatta atactcttaa tttaaatggg aagggtttta caagagttgc tgaagagggc 240  
attaatgta aacaagggtga agttattatt aggcttgatc ttgaatattt aaaagagcat 300  
tcagaatccg ttattactcc ggttggttatt gcaaattctg atgaagtttc aagtatagaa 360  
tattcttttg gaaggcttga aaatgattct gaatatattt tatcatcttc aactgtcttg 420  
acagaagaaa ttaggcataa aatatctcaa acaaagcctg ttatagcggg caaagatttg 480  
gtgttgcgag ttaaaaagta a 501

<210> 480  
<211> 405  
<212> DNA  
<213> Homo sapiens

<400> 480  
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gagggcggtg aaatttttgt ccatttttga attaatactc ttaattttaa tggtaagggg 120  
tttacaagag ttgctgaaga gggcattaat gttaaacaag gtgaagttat tattaggctt 180  
gatcttgaat atttaaaaga gcattcagaa tccggttatta ctccggttgt tattgcaaat 240  
tctgatgaag tttcaagtat agaataattct tttggaaggc ttgaaaatga ttctgaatat 300  
attttatcat cttcaactgt cttgacagaa gaaattaggc ataaaatatc tcaaacaaag 360  
cctgttatag cgggcaaaga tttggtgttg cgagttaaaa agtaa 405

<210> 481  
<211> 718  
<212> PRT  
<213> Homo sapiens

<400> 481  
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Leu Phe Phe Leu Phe Ser Cys Val Ser Asn Glu Leu Lys Leu Asp Gln  
20 25 30  
Ser Leu Val Lys Gly Lys Leu Val Asn Gly Leu Arg Tyr Tyr Ile Tyr  
35 40 45  
Lys Asn Gln Thr Pro Lys Asn Ala Val Asn Met Gly Ile Val Phe Asn  
50 55 60  
Val Gly Ser Leu Asn Glu Glu Asp Asn Glu Arg Gly Ile Ala His Tyr  
65 70 75 80  
Leu Glu His Met Ala Phe Asn Gly Thr Lys Asp Tyr Pro Gly Asn Ser  
85 90 95  
Ile Val Asp Val Leu Lys Lys Phe Gly Met Gln Phe Gly Ala Asp Ile  
100 105 110  
Asn Ala Ala Thr Ser Phe Asp Phe Thr Tyr Tyr Arg Leu Asp Leu Ser  
115 120 125  
Asp Gly Asn Asn Lys Asp Glu Ile Asp Glu Ser Ile Asn Ile Leu Arg  
130 135 140  
Asn Trp Ala Ser Gln Ile Ser Phe Met Lys Glu Glu Ile Asp Leu Glu

145					150					155					160
Arg	Asn	Ile	Ile	Ile	Glu	Glu	Lys	Lys	Leu	Gly	Glu	Thr	Tyr	Pro	Gly
				165					170					175	
Arg	Ile	Tyr	Glu	Lys	Met	Asp	Lys	Phe	Leu	Thr	Ser	Gly	Ser	Leu	Tyr
			180					185					190		
Glu	Phe	Arg	Ser	Pro	Ile	Gly	Leu	Glu	Glu	Gln	Ile	Leu	Ser	Phe	Gln
		195					200					205			
Pro	Glu	Asp	Phe	Lys	Lys	Phe	Tyr	Arg	Lys	Trp	Tyr	Arg	Pro	Glu	Leu
	210					215					220				
Ala	Ser	Val	Ile	Val	Val	Gly	Asp	Ile	Asp	Pro	Ile	Glu	Ile	Glu	Glu
225					230					235					240
Lys	Ile	Lys	Lys	Gln	Phe	Val	Ser	Trp	Lys	Asn	Pro	Thr	Asp	Lys	Ile
				245					250					255	
Lys	Glu	Val	Lys	Val	Ser	Leu	Asp	Val	Glu	Leu	Lys	Asp	Lys	Phe	Leu
			260					265					270		
Leu	Leu	Glu	Asp	Leu	Glu	Val	Gly	Glu	Pro	Ser	Leu	Met	Phe	Phe	Lys
		275					280					285			
Lys	Glu	Ile	Ile	Asn	Phe	Val	Lys	Thr	Lys	Asp	Asp	Leu	Leu	Asn	Ala
	290					295					300				
Ile	Lys	Lys	Ser	Leu	Leu	Ala	Ala	Leu	Phe	Glu	Asn	Arg	Phe	Ser	Glu
305					310					315					320
Leu	Lys	Thr	Ala	Gly	Val	Lys	Gln	Phe	Lys	Asn	Val	Ser	Asn	Lys	Asp
				325					330					335	
Phe	Phe	Ser	Phe	Lys	Ser	Asp	Asn	Asn	Thr	Ile	Val	Ala	Lys	Ser	Ile
			340					345					350		
Ser	Leu	Asn	Phe	Asn	Pro	Asp	His	Leu	Asn	Glu	Gly	Ile	Gln	Asp	Phe
		355					360					365			
Phe	Tyr	Glu	Leu	Glu	Arg	Ile	Arg	Lys	Phe	Gly	Phe	Thr	Gln	Gly	Glu
	370					375					380				
Leu	Glu	Lys	Val	Arg	Ser	Gln	Phe	Tyr	Lys	Ser	Leu	Glu	Leu	Arg	Lys
385					390					395					400
Lys	Asn	Ile	Asn	Lys	Thr	Asn	Ser	Trp	Ala	Ile	Phe	Gln	Asp	Leu	Ile
				405					410					415	
Glu	Ile	Ala	Ile	Asn	Gly	Ser	Asn	Lys	Phe	Asp	Met	Asn	Glu	Tyr	Cys
			420					425					430		
Asp	Leu	Ser	Phe	Gln	Tyr	Leu	Glu	Lys	Ile	Asp	Leu	Lys	Thr	Ile	Asn
		435					440					445			
Asn	Leu	Val	Gly	Arg	Glu	Phe	Asp	Val	Lys	Asn	Cys	Ala	Ile	Phe	Tyr
	450					455					460				
Ser	Tyr	His	Gly	Arg	Ala	His	Pro	Val	Leu	Thr	Leu	Glu	Asp	Ile	Asp

465                      470                      475                      480  
 Asn Leu Gln Lys Ile Ala Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn  
                                  485                      490                      495  
 Ser Leu Ile Glu Gly Lys Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp  
                                  500                      505                      510  
 Ile Ile Arg Glu Asn Glu Phe Glu Asn Glu Ile Ser Ser Phe Val Leu  
                                  515                      520                      525  
 Glu Asn Gly Val Glu Val Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly  
                                  530                      535                      540  
 Val Ile Asp Phe Ser Ala Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp  
                                  545                      550                      555                      560  
 Leu Lys Leu Ile Pro Val Leu Ser Phe Ala Pro Gly Val Val Ser Gly  
                                  565                      570                      575  
 Ser Gly Tyr Gly Asp Tyr Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser  
                                  580                      585                      590  
 Asp Lys Ala Val Ser Leu Arg Val Gly Val Gly Ala Gln Glu Ser Tyr  
                                  595                      600                      605  
 Ile Ser Gly Ser Ser Asp Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu  
                                  610                      615                      620  
 Ile Tyr Phe Thr Phe Lys Glu Pro Lys Ile Asp Asp Val Ser Leu Gln  
                                  625                      630                      635                      640  
 Asn Ala Ile Asn Asn Ile Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser  
                                  645                      650                      655  
 Ser Asp Tyr His Phe His Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn  
                                  660                      665                      670  
 Asp Pro Arg Phe Glu Asp Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr  
                                  675                      680                      685  
 Lys Glu Asn Ile Leu Ser Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn  
                                  690                      695                      700  
 Asn Phe Lys Phe Val Leu Leu Glu Thr Gln Ile Phe Arg Gln  
                                  705                      710                      715

<210> 482  
 <211> 696  
 <212> PRT  
 <213> Homo sapiens

<400> 482  
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 Leu Val Asn Gly Leu Arg Tyr Tyr Ile Tyr Lys Asn Gln Thr Pro Lys  
                                  20                      25                      30

Asn Ala Val Asn Met Gly Ile Val Phe Asn Val Gly Ser Leu Asn Glu

35					40					45					
Glu	Asp	Asn	Glu	Arg	Gly	Ile	Ala	His	Tyr	Leu	Glu	His	Met	Ala	Phe
50					55					60					
Asn	Gly	Thr	Lys	Asp	Tyr	Pro	Gly	Asn	Ser	Ile	Val	Asp	Val	Leu	Lys
65					70					75					80
Lys	Phe	Gly	Met	Gln	Phe	Gly	Ala	Asp	Ile	Asn	Ala	Ala	Thr	Ser	Phe
				85					90					95	
Asp	Phe	Thr	Tyr	Tyr	Arg	Leu	Asp	Leu	Ser	Asp	Gly	Asn	Asn	Lys	Asp
			100					105					110		
Glu	Ile	Asp	Glu	Ser	Ile	Asn	Ile	Leu	Arg	Asn	Trp	Ala	Ser	Gln	Ile
		115					120					125			
Ser	Phe	Met	Lys	Glu	Glu	Ile	Asp	Leu	Glu	Arg	Asn	Ile	Ile	Ile	Glu
	130					135					140				
Glu	Lys	Lys	Leu	Gly	Glu	Thr	Tyr	Pro	Gly	Arg	Ile	Tyr	Glu	Lys	Met
145				150						155					160
Asp	Lys	Phe	Leu	Thr	Ser	Gly	Ser	Leu	Tyr	Glu	Phe	Arg	Ser	Pro	Ile
			165						170					175	
Gly	Leu	Glu	Glu	Gln	Ile	Leu	Ser	Phe	Gln	Pro	Glu	Asp	Phe	Lys	Lys
		180						185					190		
Phe	Tyr	Arg	Lys	Trp	Tyr	Arg	Pro	Glu	Leu	Ala	Ser	Val	Ile	Val	Val
		195					200					205			
Gly	Asp	Ile	Asp	Pro	Ile	Glu	Ile	Glu	Glu	Lys	Ile	Lys	Lys	Gln	Phe
	210					215					220				
Val	Ser	Trp	Lys	Asn	Pro	Thr	Asp	Lys	Ile	Lys	Glu	Val	Lys	Val	Ser
225				230						235					240
Leu	Asp	Val	Glu	Leu	Lys	Asp	Lys	Phe	Leu	Leu	Leu	Glu	Asp	Leu	Glu
			245						250					255	
Val	Gly	Glu	Pro	Ser	Leu	Met	Phe	Phe	Lys	Lys	Glu	Ile	Ile	Asn	Phe
		260					265						270		
Val	Lys	Thr	Lys	Asp	Asp	Leu	Leu	Asn	Ala	Ile	Lys	Lys	Ser	Leu	Leu
		275				280						285			
Ala	Ala	Leu	Phe	Glu	Asn	Arg	Phe	Ser	Glu	Leu	Lys	Thr	Ala	Gly	Val
	290					295					300				
Lys	Gln	Phe	Lys	Asn	Val	Ser	Asn	Lys	Asp	Phe	Phe	Ser	Phe	Lys	Ser
305				310						315					320
Asp	Asn	Asn	Thr	Ile	Val	Ala	Lys	Ser	Ile	Ser	Leu	Asn	Phe	Asn	Pro
			325						330				335		
Asp	His	Leu	Asn	Glu	Gly	Ile	Gln	Asp	Phe	Phe	Tyr	Glu	Leu	Glu	Arg
		340					345					350			
Ile	Arg	Lys	Phe	Gly	Phe	Thr	Gln	Gly	Glu	Leu	Glu	Lys	Val	Arg	Ser

355		360		365
Gln Phe Tyr Lys Ser Leu Glu Leu Arg Lys Lys Asn Ile Asn Lys Thr				
370		375		380
Asn Ser Trp Ala Ile Phe Gln Asp Leu Ile Glu Ile Ala Ile Asn Gly				
385		390		395
				400
Ser Asn Lys Phe Asp Met Asn Glu Tyr Cys Asp Leu Ser Phe Gln Tyr				
	405		410	
				415
Leu Glu Lys Ile Asp Leu Lys Thr Ile Asn Asn Leu Val Gly Arg Glu				
	420		425	
				430
Phe Asp Val Lys Asn Cys Ala Ile Phe Tyr Ser Tyr His Gly Arg Ala				
	435		440	
				445
His Pro Val Leu Thr Leu Glu Asp Ile Asp Asn Leu Gln Lys Ile Ala				
	450		455	
				460
Leu Lys Arg Glu Leu Lys Pro Tyr Glu Asn Ser Leu Ile Glu Gly Lys				
	465		470	
				475
				480
Phe Phe Lys Lys Ser Leu Asp Asp Lys Asp Ile Ile Arg Glu Asn Glu				
		485		
			490	
				495
Phe Glu Asn Glu Ile Ser Ser Phe Val Leu Glu Asn Gly Val Glu Val				
	500		505	
				510
Tyr Phe Lys Tyr Asn Asp Gln Lys Lys Gly Val Ile Asp Phe Ser Ala				
	515		520	
				525
Thr Ser Trp Gly Gly Leu Ile Asn Glu Asp Leu Lys Leu Ile Pro Val				
	530		535	
				540
Leu Ser Phe Ala Pro Gly Val Val Ser Gly Ser Gly Tyr Gly Asp Tyr				
	545		550	
				555
				560
Ser Ala Leu Gln Ile Glu Lys Tyr Leu Ser Asp Lys Ala Val Ser Leu				
		565		
			570	
				575
Arg Val Gly Val Gly Ala Gln Glu Ser Tyr Ile Ser Gly Ser Ser Asp				
	580		585	
				590
Lys Lys Asp Leu Glu Thr Leu Phe Gln Leu Ile Tyr Phe Thr Phe Lys				
	595		600	
				605
Glu Pro Lys Ile Asp Asp Val Ser Leu Gln Asn Ala Ile Asn Asn Ile				
	610		615	
				620
Lys Ala Leu Ile Lys Ser Asn Glu Asn Ser Ser Asp Tyr His Phe His				
	625		630	
				635
				640
Lys Ala Ile Ser Lys Phe Leu Asn Asn Asn Asp Pro Arg Phe Glu Asp				
		645		
			650	
				655
Thr Lys Asp Ser Asp Leu Gln Tyr Phe Thr Lys Glu Asn Ile Leu Ser				
	660		665	
				670
Phe Tyr Lys Lys Arg Phe Thr Tyr Ala Asn Asn Phe Lys Phe Val Leu				

Leu Glu Thr Gln Ile Phe Arg Gln  
690 695

<210> 483  
<211> 2157  
<212> DNA  
<213> Homo sapiens

<400> 483  
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aatgggctaa ggtattatat ttataaaaaa caaaccccaa agaatgccgt taatatggga 180  
attgttttta atgtgggctc acttaatgaa gaagataatg agaggggaat agcgcattat 240  
cttgaacata tggcttttaa tggtaaaaaa gattatccag ggaattctat agttgatgtt 300  
cttaaaaaat ttggaatgca atttgggtgt gacattaatg ctgctactag ttttgatttc 360  
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aatattttga gaaactgggc ttctcaaact agtttcatga aagaagaaat agatctagag 480  
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gaagagcaaa ttttatcttt tcagccagaa gattttaaaa aatttttatag aaagtgggtat 660  
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aagataaaga agcaatttgt ttcttggaaa aatccaaccg ataaaaattaa agaagtaaaa 780  
gtaagtttag acgtagagct taaggataaa tttttacttt tagaagattt ggaagttgga 840  
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aaatcagata acaataccat tgttgcaaaa tcgatttctt taaactttaa tccagatcat 1080  
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ctttttcagc ttatatattt tacttttaag gaacccaaaa ttgatgatgt ttctttgcaa 1920  
aatgctatta ataataataa agcattaata aagagcaatg aaaatagttc tgattatcat 1980  
tttcataaag ccattagtaa atttttaaac aataatgac cttagatttga agatacaaaa 2040  
gatagtgatt tgcaatattt tacaaaagaa aatattttgt ctttttataa gaaaagggtt 2100  
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<210> 484  
<211> 2091  
<212> DNA  
<213> Homo sapiens

<400> 484  
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aaatttgga tgcaatttgg tgctgacatt aatgctgcta ctagttttga tttcacttat 300  
tatagacttg atttgtcaga tggtaataat aaagatgaaa ttgatgaatc tataaatatt 360



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 gataagtttt tgacaagcgg aagtccttat gaatttagaa gtcctattgg acttgaagag 540  
 caaattttat cttttcagcc agaagatttt aaaaaatttt atagaaagtg gtataggcca 600  
 gaacttgcaa gtgttattgt ggtaggagat attgatccta tagaaattga agagaagata 660  
 aagaagcaat ttgtttcttg gaaaaatcca accgataaaa ttaaagaagt aaaagtaagt 720  
 ttagacgtag agcttaagga taaattttta cttttagaag atttggaagt tggagagcct 780  
 agtttaaatgt tctttaaaaa ggaaattatt aactttgtaa agaccaaaaga tgacctttta 840  
 aatgctatta aaaagtcttt attagccgct ctttttgaaa atagattttc tgaattaaag 900  
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 gataacaata ccattgttgc aaaatcgatt tctttaaact ttaatccaga tcatttgaac 1020  
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 atttcgtcat ttgttcttga aaatgggggtt gaagtttatt ttaaatataa tgatcaaaaa 1560  
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 cttattcctg ttttatcttt tgctcccgga gtagtatctg gttcgggtta tgggtgattat 1680  
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 cagcttatat attttacttt taaggaaccc aaaattgatg atgtttcttt gcaaaatgct 1860  
 attaataata taaaagcatt aataaagagc aatgaaaata gttctgatta tcattttcat 1920  
 aaagccatta gttaaatttt aaacaataat gatcctagat ttgaagatac aaaagatagt 1980  
 gatttgcaat attttacaaa agaaaatatt ttgtcttttt ataagaaaag gtttacttat 2040  
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<210> 485

<211> 284

<212> PRT

<213> Homo sapiens

<400> 485

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 20 25 30

Asp Gly Ser Ile Val Thr Gln Val Asp Lys Gln Ile Glu Gln Phe Leu  
 35 40 45

Phe Lys Glu Ile Lys Lys Pro Gly Asn Phe Val Leu Gly Glu Glu Thr  
 50 55 60

Ile Ser Thr Tyr Lys Glu Tyr Ile Lys Asp Ala Leu Ile Ser Glu  
 65 70 75 80

Ser Thr Phe Ile Ile Asp Pro Ile Asp Gly Thr Ser Ser Phe Ala Ala  
 85 90 95

Gly Leu Pro Ser Tyr Gly Ile Ser Leu Ala Tyr Ala Ser Gly Gly Lys  
 100 105 110

Ile Ile Glu Gly Ala Ile Ser Leu Pro Leu Ser Gly Glu Phe Phe Ile  
 115 120 125

Thr Ser Lys Asp Asn Val Phe Tyr Ala Lys Lys Asn Ile Gly Ser Tyr  
 130 135 140  
 Pro Leu Lys Lys Asp Phe Asn Lys Phe Ile Phe Asp Asn Ser Lys Cys  
 145 150 155 160  
 Tyr Asn Ile His Ser Leu Leu Ala Val Ser Arg Ser Ile Ile Arg Leu  
 165 170 175  
 Phe Asn Leu Asp Ile Ser Ser His Ile His Ile Asn Gly Ser Cys Val  
 180 185 190  
 Tyr Ser Phe Ala Lys Leu Phe Thr Gly Ser Tyr Lys Ala Tyr Phe Ser  
 195 200 205  
 Phe Val Gly Leu Trp Asp Ile Ala Ala Cys Leu Ala Ile Gly Asn Lys  
 210 215 220  
 Leu Gly Met Val Gly Glu Phe Tyr Cys Gly Asn Lys Met Thr Leu Asp  
 225 230 235 240  
 Ile Leu Asp Ser Met Tyr Ile Leu Glu Pro Asn Asn His Lys Arg Trp  
 245 250 255  
 Ser Leu Lys Asp Phe Phe Ile Tyr Ser Asp Asn Lys Ser Thr Ile Asp  
 260 265 270  
 Ile Ile Arg Lys Asp Ala Asn Lys Lys Ile Asn Lys  
 275 280  
 <210> 486  
 <211> 262  
 <212> PRT  
 <213> Homo sapiens  
 <400> 486  
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 Pro Gly Asn Phe Val Leu Gly Glu Glu Thr Ile Ser Thr Tyr Lys Glu  
 35 40 45  
 Glu Tyr Ile Lys Asp Ala Leu Ile Ser Glu Ser Thr Phe Ile Ile Asp  
 50 55 60  
 Pro Ile Asp Gly Thr Ser Phe Ala Ala Gly Leu Pro Ser Tyr Gly  
 65 70 75 80  
 Ile Ser Leu Ala Tyr Ala Ser Gly Gly Lys Ile Ile Glu Gly Ala Ile  
 85 90 95  
 Ser Leu Pro Leu Ser Gly Glu Phe Phe Ile Thr Ser Lys Asp Asn Val  
 100 105 110  
 Phe Tyr Ala Lys Lys Asn Ile Gly Ser Tyr Pro Leu Lys Lys Asp Phe  
 115 120 125

Asn Lys Phe Ile Phe Asp Asn Ser Lys Cys Tyr Asn Ile His Ser Leu  
 130 135 140  
 Leu Ala Val Ser Arg Ser Ile Ile Arg Leu Phe Asn Leu Asp Ile Ser  
 145 150 155 160  
 Ser His Ile His Ile Asn Gly Ser Cys Val Tyr Ser Phe Ala Lys Leu  
 165 170 175  
 Phe Thr Gly Ser Tyr Lys Ala Tyr Phe Ser Phe Val Gly Leu Trp Asp  
 180 185 190  
 Ile Ala Ala Cys Leu Ala Ile Gly Asn Lys Leu Gly Met Val Gly Glu  
 195 200 205  
 Phe Tyr Cys Gly Asn Lys Met Thr Leu Asp Ile Leu Asp Ser Met Tyr  
 210 215 220  
 Ile Leu Glu Pro Asn Asn His Lys Arg Trp Ser Leu Lys Asp Phe Phe  
 225 230 235 240  
 Ile Tyr Ser Asp Asn Lys Ser Thr Ile Asp Ile Ile Arg Lys Asp Ala  
 245 250 255  
 Asn Lys Lys Ile Asn Lys  
 260

<210> 487  
 <211> 855  
 <212> DNA  
 <213> Homo sapiens

<400> 487  
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 gataagcaaaa ttgagcaatt cttattcaaaa gagatcaaaa agcctggaaa ttttggttctt 180  
 ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 240  
 agtacttttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 300  
 tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 360  
 cctttaagcg gagagttttt tattacttct aaagataatg tattttatgc taaaaaaaaac 420  
 attggtagct atccttttaa aaaggatttt aataaattta tttttgataa ttctaaatgt 480  
 tacaatatctc atagtttact tgcagtttca aggtctatta taaggttatt taatcttgat 540  
 atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 600  
 ggttcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 660  
 attggttaata aattgggcat gggtggcgaa ttttattgtg gtaataaaat gacattagat 720  
 atcttagatt caatgtatat tttagagcct aataatcata aaagatgggc cttgaaagat 780  
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 aaaatcaata agtaa 855

<210> 488  
 <211> 795  
 <212> DNA  
 <213> Homo sapiens

<400> 488  
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 ggagaagaga caatatctac ttataaagaa gagtatatca aagatgcttt aatatcagag 180  
 agtacttttta ttattgatcc tattgatgga acttcttctt ttgcagcagg ccttccttca 240  
 tatggaatat cgctagcgta tgctagtggc ggcaaaatta ttgaaggagc catttctctt 300

cctttaagcg gagagttttt tattacttct aaagataatg ttttttatgc taaaaaaaaac 360  
 attggttagct atccttttaa aaaggatttt aataaattta tttttgataa ttctaaatgt 420  
 tacaatatcc atagtttact tgcagtttca aggtctatta taagggttatt taatcttgat 480  
 atttcttctc atattcatat taatggttct tgtgtatatt cttttgctaa actttttaca 540  
 gggtcttata aggcctactt ttcttttgta ggactttggg atattgcagc gtgttttagct 600  
 attggttaata aattgggcat gggtggcgaa ttttattgtg gtaataaaat gacattagat 660  
 atcttagatt caatgtatat tttagagcct aataatcata aaagatgggc cttgaaagat 720  
 ttttttattt attctgataa taaatcaaca atagacatta taagaaaaga tgcaataaaa 780  
 aaaatcaata agtaa 795

<210> 489

<211> 213

<212> PRT

<213> Homo sapiens

<400> 489

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 20 25 30  
 Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu Ile Lys Lys Leu Glu  
 35 40 45  
 Asn Val Ile Asn Ser Asn Phe Glu Val Ile Thr Tyr Thr Lys Ala Ile  
 50 55 60  
 Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu Ile Lys Pro Tyr Trp  
 65 70 75 80  
 Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr Leu Thr Glu Glu Thr  
 85 90 95  
 Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro Lys Asn Phe Lys Ala  
 100 105 110  
 Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr Val Lys Gly Met Asp  
 115 120 125  
 Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly Gly Ser Glu Arg Glu  
 130 135 140  
 Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys Glu Leu Asn Leu Asn  
 145 150 155 160  
 Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg Arg Phe Gly Ser Ala  
 165 170 175  
 Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg Leu Val Gln Tyr Ser  
 180 185 190  
 Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro Phe Pro Arg Thr Pro  
 195 200 205  
 Lys Asn Leu Tyr Phe  
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<210> 490

<211> 186

<212> PRT

<213> Homo sapiens

<400> 490

Cys Ser Gln Asp Met Asp Phe Leu Glu Asn Tyr Ile Glu Lys Gly Leu  
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20 25 30  
Tyr Thr Lys Ala Ile Glu Ile Leu Glu Asn Ser Lys Lys Asn Phe Glu  
35 40 45  
Ile Lys Pro Tyr Trp Gly Ile Asp Leu Gln Thr Asp His Glu Arg Tyr  
50 55 60  
Leu Thr Glu Glu Thr Phe Lys Lys Pro Val Val Val Ile Asp Tyr Pro  
65 70 75 80  
Lys Asn Phe Lys Ala Phe Tyr Met Lys Ala Asn Lys Asp Asn Lys Thr  
85 90 95  
Val Lys Gly Met Asp Ile Leu Val Pro Lys Ile Gly Glu Ile Ile Gly  
100 105 110  
Gly Ser Glu Arg Glu Asp Asp Leu Gln Lys Leu Glu Asn Arg Ile Lys  
115 120 125  
Glu Leu Asn Leu Asn Ile Glu His Leu Asn Trp Tyr Leu Asp Leu Arg  
130 135 140  
Arg Phe Gly Ser Ala Pro His Ser Gly Phe Gly Leu Gly Leu Glu Arg  
145 150 155 160  
Leu Val Gln Tyr Ser Thr Gly Ile Ser Asn Ile Arg Asp Ser Ile Pro  
165 170 175  
Phe Pro Arg Thr Pro Lys Asn Leu Tyr Phe  
180 185

<210> 491

<211> 642

<212> DNA

<213> Homo sapiens

<400> 491

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aaaggtttaa ttaaaaaaact agaaaatgta ataaattcaa attttgaggt tattacctat 180  
actaaagcaa ttgaaattct tgaaaactca aaaaaaaatt ttgaaataaa accttactgg 240  
ggaatagatt tgcaaacaga tcacgaaaga tacctaacag aagagacttt taaaaaaccg 300  
gtagtgggtca ttgattatcc aaaaaatttc aaagcatttt acatgaaagc aaataaagac 360  
aataaaaactg ttaaaggaat ggacatactt gttccaaaaa ttggagagat tataggggga 420  
agcgaaagag aagatgacct tcaaaaatta gaaaatagaa taaaagaatt aaacttaaac 480  
attgaacatc taaactggta tcttgatcta agaagatttg gctcggctcc tcattctggc 540  
tttggacttg gacttgaaag attggtgcaa tactcaacag gaatatctaa tataagagat 600  
tcaataccat tccaaggac tcctaaaaat ctttatTTTT aa 642

<210> 492

<211> 561

<212> DNA

<213> Homo sapiens

<400> 492

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gaaaactcaa aaaaaaattt tgaaataaaa ccttactggg gaatagattt gcaaacagat 180
cacgaaagat acctaacaga agagactttt aaaaaaccgg tagtggtcat tgattatcca 240
aaaaatttca aagcatttta catgaaagca aataaagaca ataaaactgt taaaggaatg 300
gacatacttg ttccaaaaat tggagagatt atagggggaa gcgaaagaga agatgacctt 360
caaaaattag aaaatagaat aaaagaatta aacttaaaca ttgaacatct aaactgggat 420
cttgatctaa gaagatttgg ctcggtcctt cattctgggt ttggacttgg acttgaaaga 480
ttggtgcaat actcaacagg aatatctaata ataagagatt caataccatt cccaaggact 540
cctaaaaatc tttattttta a
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561

<210> 493

<211> 175

<212> PRT

<213> Homo sapiens

<400> 493

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Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys Lys Phe
          20                      25                      30
Pro Ser Ile Gln Ile Leu Gly Ile Lys Tyr Tyr Asp Val Val Tyr Asn
          35                      40                      45
Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe Asn Asp
          50                      55                      60
Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His Ser Leu
          65                      70                      75                      80
Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser Tyr Ile
          85                      90                      95
Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile Glu Asp
          100                      105                      110
Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp Lys Asn
          115                      120                      125
Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu Ile Arg
          130                      135                      140
Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe Leu Lys
          145                      150                      155                      160
Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met Asn
          165                      170                      175
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<210> 494

<211> 161

<212> PRT

<213> Homo sapiens

<400> 494

Cys Thr Phe Asp Tyr Asp Glu Tyr Ser Ser Arg Ser Asp Val Ala Lys  
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 20 25 30  
 Tyr Asn Lys Glu Gln Thr Val Leu Asn Ser Leu Ser Phe Ser Tyr Phe  
 35 40 45  
 Asn Asp Tyr Lys Ile Tyr Lys Ala Glu Asn Gly Arg Phe Leu Tyr His  
 50 55 60  
 Ser Leu Asp Asn Glu Ile Ser Gly Lys Phe Asn Asn Leu Glu Gly Ser  
 65 70 75 80  
 Tyr Ile Thr Lys Asp Leu Asp Met Arg Asp Ser Val Glu Phe Lys Ile  
 85 90 95  
 Glu Asp Lys Asn Asn Tyr Tyr Leu Leu Asn Ser Asn Arg Leu Leu Trp  
 100 105 110  
 Lys Asn Lys Asp Lys Lys Leu Gln Ser Pro Pro Asn Glu Leu Val Leu  
 115 120 125  
 Ile Arg Phe Asn Asp Ser Lys Ile Asn Gly Lys Gly Phe Ser Tyr Phe  
 130 135 140  
 Leu Lys Ser Asn Val Phe Tyr Phe Asp Ser Gly Val Glu Gly Ile Met  
 145 150 155 160

Asn

<210> 495  
 <211> 528  
 <212> DNA  
 <213> Homo sapiens

<400> 495  
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 aagtattatg atgttgtata caataaagag caaacggtt taaattcctt aagcttttagt 180  
 tatttcaatg actataaaat ttataaggca gagaatggaa ggtttttata tcattcccta 240  
 gataatgaaa tttcagggaa gttaataaat ttggaagggt cttatattac aaaggatttg 300  
 gatatgagag attctgtaga atttaaaata gaagataaaa ataattatta ttgcttaaat 360  
 tcaaataggc ttttatggaa gaataaagac aagaagttgc aatccccccc aaatgagcta 420  
 gtattaatta gatttaatga tagcaaaata aacggaaaag gattttctta ttttttaaag 480  
 agcaatgttt tttattttga ttctggagtt gaaggaatca tgaattga 528

<210> 496  
 <211> 486  
 <212> DNA  
 <213> Homo sapiens

<400> 496  
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 aattctttta gcttttagtta tttcaatgac tataaaattt ataaggcaga gaatggaagg 180  
 tttttatatt attccctaga taatgaaatt tcagggaagt ttaataattt ggaagggttct 240  
 tatattacaa aggatttgga tatgagagat tctgtagaat ttaaaataga agataaaaaat 300

aattattatt tgcttaattc aaataggctt ttatggaaga ataaagacaa gaagttgcaa 360  
 tcccccccaa atgagctagt attaattaga tttaatgata gcaaaaataaa cggaagga 420  
 ttttcttatt ttttaaagag caatgtttt tattttgatt ctggagttga aggaatcatg 480  
 aattga 486

<210> 497  
 <211> 201  
 <212> PRT  
 <213> Homo sapiens

<400> 497  
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 20 25 30  
 Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile Phe Phe Asn Tyr Leu  
 35 40 45  
 Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys Ile Arg Gly Leu Lys  
 50 55 60  
 Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro Leu Phe Phe Asn Asn  
 65 70 75 80  
 Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile Ser Lys Gly Phe Glu  
 85 90 95  
 Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln Asn Gly Ile Glu Lys  
 100 105 110  
 Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg Ser Leu Asn Ile Lys  
 115 120 125  
 Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe Asp Asn Leu Ile Asn  
 130 135 140  
 Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr Thr Glu Val Val His  
 145 150 155 160  
 Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser Tyr Lys Ile Glu Leu  
 165 170 175  
 Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn Lys Leu Ile Asn Asp  
 180 185 190  
 Leu Phe Leu Val Leu Ser Pro Gly Ile  
 195 200

<210> 498  
 <211> 190  
 <212> PRT  
 <213> Homo sapiens

<400> 498  
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 Ile Glu Phe Phe Asp Ser Ile Lys Asn Phe Gln Ser Ser Pro Glu Ile



20

25

30

Phe Phe Asn Tyr Leu Asn Ile Pro Ser Asp Asp Asp Leu Lys Ala Lys  
35 40 45

Ile Arg Gly Leu Lys Ser Gln Ala Lys Asp Asp Phe Ile Phe Tyr Pro  
50 55 60

Leu Phe Phe Asn Asn Leu Arg Tyr Glu Ile Ile Gly Arg Lys Asn Ile  
65 70 75 80

Ser Lys Gly Phe Glu Phe Glu Val Val Ile Lys Asn Ile Asn Phe Gln  
85 90 95

Asn Gly Ile Glu Lys Phe Leu Ala Lys Leu Asn Lys Ile Glu Gly Arg  
100 105 110

Ser Leu Asn Ile Lys Asn Leu Glu Lys Lys Glu Arg Lys Lys Ile Phe  
115 120 125

Asp Asn Leu Ile Asn Glu Val Ile Gly Glu Leu Asp Asp Phe Asp Tyr  
130 135 140

Thr Glu Val Val His Phe Phe Arg Val Val Lys Ser Ser Ser Glu Ser  
145 150 155 160

Tyr Lys Ile Glu Leu Leu Gly Asp Val Leu Asn Ile Gln Ser Arg Asn  
165 170 175

Lys Leu Ile Asn Asp Leu Phe Leu Val Leu Ser Pro Gly Ile  
180 185 190

&lt;210&gt; 499

&lt;211&gt; 606

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 499

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cctgaaatat tttttaatta tttaaattt ccaagtgatg atgatctgaa ggcaaaaatt 180  
cgtgggttga aatctcaggc aaaggatgat ttcatTTTTT atcctttgtt ttttaataat 240  
ctaagatatg agataatagg tagaaaaaat atttctaagg gctttgaatt tgaagttgtt 300  
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gaagggagat ctttaaatat taaaaattta gaaaaaaaag agcgtaaaaa aatatttgac 420  
aatttaataa atgaagttat tggagagttg gatgattttg attacactga agttgttcat 480  
tttttttagag tagttaagag ttcttctgaa agttataaaa tagagctttt aggagatgtt 540  
ttaaatatac agtctagaaa taagcttatt aatgatcttt ttttggtttt atcgccctgga 600  
atttaa 606

&lt;210&gt; 500

&lt;211&gt; 573

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 500

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gattctatta aaaattttca aagcagtcct gaaatatattt ttaattattt aaatattcca 120  
agtgatgatg atctgaaggc aaaaattcgt gggttgaaat ctcaggcaaa ggatgatttc 180  
atTTTTTatc ctttgTTTTt taataatcta agatatgaga taataggtag aaaaaattt 240

tctaagggct ttgaatttga agttgttatt aaaaatatta actttcaaaa cggtatagaa 300  
aaatttttgg ctaaattaaa taaaattgaa gggagatctt taaatattaa aaatttagaa 360  
aaaaaagagc gtaaaaaaat atttgacaat ttaataaatg aagttattgg agagttggat 420  
gatttttgatt acactgaagt tgttcatttt tttagagtag ttaagagttc ttctgaaagt 480  
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gatctttttt tggtttttatc gcctggaatt taa 573

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<211> 167  
<212> PRT  
<213> Homo sapiens

<400> 501  
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Leu Val Asp Gly Val Leu Asp Asp Lys Ser Phe Asn Ser Ser Ala Asn  
35 40 45  
Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile Glu Glu  
50 55 60  
Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val Ser Asp  
65 70 75 80  
Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu Val Gly  
85 90 95  
Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn Pro Lys  
100 105 110  
Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val Gln Ile  
115 120 125  
Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg Cys Phe  
130 135 140  
Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln Asn Arg  
145 150 155 160  
Phe Tyr Arg Gly Asn Glu Gly  
165

<210> 502  
<211> 153  
<212> PRT  
<213> Homo sapiens

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Ala Asn Glu Ala Leu Leu Arg Leu Lys Lys Asp Phe Pro Glu Asn Ile  
35 40 45

Glu Glu Val Phe Ser Cys Ala Ile Ser Gly Val Tyr Ser Ser Tyr Val  
50 55 60

Ser Asp Leu Asp Asn Leu Lys Arg Asn Gly Ser Asp Leu Ile Trp Leu  
65 70 75 80

Val Gly Tyr Met Leu Thr Asp Ala Ser Leu Leu Val Ser Ser Glu Asn  
85 90 95

Pro Lys Ile Ser Tyr Gly Ile Ile Asp Pro Ile Tyr Gly Asp Asp Val  
100 105 110

Gln Ile Pro Glu Asn Leu Ile Ala Val Val Phe Arg Val Glu Pro Arg  
115 120 125

Cys Phe Phe Gly Trp Leu Tyr Cys Ser Gln Lys Lys Leu Phe Trp Gln  
130 135 140

Asn Arg Phe Tyr Arg Gly Asn Glu Gly  
145 150

<210> 503

<211> 504

<212> DNA

<213> Homo sapiens

<400> 503

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aatattgaag aagttttttc ttgtgctatt tctggagttt attctagtta tgtttcagat 240  
cttgataatt taaaaaggaa tggctcagac ttgatttggc ttgtagggta catgcttacg 300  
gacgcattctt tattgggttc atcggagaat ccaaaaatta gctatggaat aatagatccc 360  
atztatgggtg atgatgttca gattcctgaa aacttgattg ctgttgtttt cagagtagag 420  
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<210> 504

<211> 462

<212> DNA

<213> Homo sapiens

<400> 504

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aaaaaagatt ttccagaaaa tattgaagaa gttttttctt gtgctatttc tggagtttat 180  
tctagttatg tttcagatct tgataattta aaaaggaatg gctcagactt gatttggctt 240  
gtagggtaca tgcttacgga cgcattctta ttgggttcat cggagaatcc aaaaatttagc 300  
tatggaataa tagatcccat ttatgggtgat gatgttcaga ttcttgaaaa cttgattgct 360  
gttggttttca gagtagagcc aagggtgcttt ttgggtggc tatattgcag ccaaaaaaag 420  
cttttctggc aaaataggtt ttataggggg aatgaagggt aa 462

<210> 505

<211> 264

<212> PRT

<213> Homo sapiens

<400> 505

Met Lys Arg Ile Leu Ala Met His Asp Ile Ser Ser Met Gly Arg Thr



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Asn Glu His Phe Asp Ile Leu Tyr Thr Gly Phe Leu Gly Ser Glu Lys		
50	55	60
Gln Gln Ile Thr Ile Glu Lys Ile Ile Lys Leu Ile Lys Phe Glu Lys		
65	70	75
Ile Val Ile Asp Pro Val Phe Ala Asp Asp Gly Glu Ile Tyr Pro Ile		
85	90	95
Phe Asp Asn Lys Ile Ile Ser Gly Phe Arg Lys Ile Ile Lys Tyr Ala		
100	105	110
Asn Ile Ile Thr Pro Asn Ile Thr Glu Leu Glu Met Leu Ser Lys Ser		
115	120	125
Ser Lys Leu Asn Asn Lys Asp Asp Ile Ile Lys Ala Ile Leu Asn Leu		
130	135	140
Asp Thr Lys Ala Thr Val Val Val Thr Ser Val Lys Arg Gly Asn Leu		
145	150	155
Leu Gly Asn Ile Cys Tyr Asn Pro Lys Asn Lys Glu Tyr Ser Glu Phe		
165	170	175
Phe Leu Glu Gly Leu Glu Gln Asn Phe Ser Gly Thr Gly Asp Leu Phe		
180	185	190
Thr Ser Leu Leu Ile Gly Tyr Leu Glu Lys Phe Glu Thr Glu Gln Ala		
195	200	205
Leu Glu Lys Thr Thr Lys Ala Ile His Leu Ile Ile Lys Glu Ser Ile		
210	215	220
Lys Glu Asn Val Ser Lys Lys Glu Gly Val Arg Ile Glu Asn Phe Leu		
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240		

Lys Asn Thr Phe

<210> 507

<211> 795

<212> DNA

<213> Homo sapiens

<400> 507

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tctgcttcca cagcttataa aaaatttgaa atagtggatt taaccgatca tttagaaaaa 180
tttatcaata tatggaaaga acaaaatgag cactttgaca tactctatac cggatttctg 240
ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 300
attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 360
ataattagtg gatttagaaa aatcataaag tacgcaaaca taataacacc caatatcaca 420
gaacttgaaa tgctaagcaa aggtcaaaa cttaacaaca aagatgatat cataaaagca 480
atattaaatc ttgatacaaa agcgacggtg gttgttacaa gcgttaaaag gggaaatctc 540
ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 600

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ttagaacaaa atttcagtgg aacaggagat ttattttacca gcttacttat aggatatttg 660  
 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 720  
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 aaaaatacat tttga 795

<210> 508

<211> 735

<212> DNA

<213> Homo sapiens

<400> 508

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 tttatcaata tatggaaaga acaaaatgag cactttgaca tactctatac cggatttctg 180  
 ggaagcgaaa aacaacaaat aacaatagag aaaataatta aattaataaa atttgaaaaa 240  
 attgtaattg atcctgtggt tgctgacgat ggagaaattt accctatatt tgataataaa 300  
 ataattagtg gatttagaaa aatcataaag tacgcaaaca taataacacc caatatcaca 360  
 gaacttgaaa tgctaagcaa aagctcaaaa cttacaaca aagatgatat cataaaagca 420  
 atattaaatc ttgatacaaa agcgacggta gttgttaca gcgttaaaag gggaaatctc 480  
 ttgggaaaca tttgctacaa tcctaaaaac aaagaatact cggagttttt tttagaagga 540  
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 gaaaaatttg aaacagagca agccttagaa aaaacaacaa aggctattca cctaataata 660  
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 aaaaatacat tttga 735

<210> 509

<211> 255

<212> PRT

<213> Homo sapiens

<400> 509

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 Asp Phe Ser Val Leu Glu Phe Lys Val Ala Asn Phe Asn Leu Asn Asp  
 35 40 45  
 Asp Phe Ser Gln Gly Leu Leu Asp Ser Ala Tyr Asn Ile Leu Asn Arg  
 50 55 60  
 Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu Lys Asn Lys Asn Val Leu  
 65 70 75 80  
 Asp Leu Ile Asn Asn Arg Val Leu Phe Arg Ala Phe Lys Asn Ala Tyr  
 85 90 95  
 Phe Ile Asp Gln Gly Ser Gly Leu Ser Val Ser Ile Leu Ser Lys Arg  
 100 105 110  
 Lys Ile Asn Ile Lys Val Leu Ser Val Met Gln Asp Ser Cys Asp Leu  
 115 120 125  
 Lys Leu Gly Leu Leu Val Asp Phe Lys Phe Glu Asn Asn His Tyr Gly  
 130 135 140  
 Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe Ile Lys Ser Ile Ala Asn  
 145 150 155 160

Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu Lys Ala Gln Met Asp Lys  
 165 170 175  
 Leu Met Phe Ile Leu Asp Glu Ser Glu Phe Val Ile Phe Asp Leu Leu  
 180 185 190  
 Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn Asp Ser Asn Tyr Thr Ser  
 195 200 205  
 Met Leu Ala Asn Lys Ile Asp Phe Arg Val Phe Ser Asn Phe Phe Ala  
 210 215 220  
 Arg Val Ser Leu Tyr Ser Phe Met Phe Val Ile Ala Asp Tyr Leu His  
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 245 250 255  
 <210> 510  
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 <212> PRT  
 <213> Homo sapiens  
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 Tyr Asn Ile Leu Asn Arg Ser Phe Asp Leu Ile Ile Ile Lys Asn Leu  
 35 40 45  
 Lys Asn Lys Asn Val Leu Asp Leu Ile Asn Asn Arg Val Leu Phe Arg  
 50 55 60  
 Ala Phe Lys Asn Ala Tyr Phe Ile Asp Gln Gly Ser Gly Leu Ser Val  
 65 70 75 80  
 Ser Ile Leu Ser Lys Arg Lys Ile Asn Ile Lys Val Leu Ser Val Met  
 85 90 95  
 Gln Asp Ser Cys Asp Leu Lys Leu Gly Leu Leu Val Asp Phe Lys Phe  
 100 105 110  
 Glu Asn Asn His Tyr Gly Ile Val Ile Tyr Asn Leu Ser Lys Asp Phe  
 115 120 125  
 Ile Lys Ser Ile Ala Asn Leu Gln Ile Ser Glu Gln Ile Leu Tyr Leu  
 130 135 140  
 Lys Ala Gln Met Asp Lys Leu Met Phe Ile Leu Asp Glu Ser Glu Phe  
 145 150 155 160  
 Val Ile Phe Asp Leu Leu Ile Lys Asn Gly Phe Phe Ser Leu Ile Asn  
 165 170 175  
 Asp Ser Asn Tyr Thr Ser Met Leu Ala Asn Lys Ile Asp Phe Arg Val  
 180 185 190

Phe Ser Asn Phe Phe Ala Arg Val Ser Leu Tyr Ser Phe Met Phe Val  
 195 200 205

Ile Ala Asp Tyr Leu His Ser Asn Tyr Val Val Glu Asn Phe Pro Gln  
 210 215 220

Lys Ile Val Ile Asn  
 225

<210> 511  
 <211> 768  
 <212> DNA  
 <213> Homo sapiens

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 gttgcaaatt ttaatttaaa tgatgatttt tctcaagggt tacttgattc tgcttataat 180  
 attctaaatc gaagttttga ttttaataatt attaagaatc ttaagaataa aaatgttctt 240  
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 ggtagtgggc tttctgttag cattctttct aagcgcaaaa taaatattaa agttttaagt 360  
 gtaatgcaag attcttgcca tttaaaatta ggattgcttg tggattttta atttgagaat 420  
 aatcactatg gtattgttat ttataattta agcaaggatt ttattaaaag tattgccaat 480  
 ttgcaaatta gtgaacaaat tttatattta aaagcccaaa tggataaatt gatgtttatt 540  
 ttagatgaat ctgaatttgt tatttttgat ttattaatca aaaatggatt ttttagctta 600  
 ataatgatt caaactacac ttcaatgtta gcaataaaaa ttgatttttag agtttttct 660  
 aatttttttg ctagggtttc tttatattca tttatgtttg taattgcaga ttatttgcatt 720  
 agcaattatg ttgttgagaa ttttcctcaa aaaatagtta tcaattga 768

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 <212> DNA  
 <213> Homo sapiens

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 gatttaataa ttattaagaa tcttaagaat aaaaatgttc ttgatttaat taataataga 180  
 gttttattta gagcttttaa gaatgcttat tttattgatc aaggtagtgg cttttctgtt 240  
 agcattcttt ctaagcgcaa aataaatatt aaagttttta gtgtaatgca agattcttgc 300  
 gatttaaaat taggattgct tgtggatttt aaatttgaga ataactacta tggatttatt 360  
 atttataatt taagcaagga ttttattaaa agtattgcca atttgcaaat tagtgaacaa 420  
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 gttatttttg atttattaat caaaaatgga ttttttagct taataaatga ttcaaactac 540  
 acttcaatgt tagcaaataa aattgatttt agagtttttt ctaatttttt tgctagggtt 600  
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 aattttcctc aaaaatagt tatcaattga 690

<210> 513  
 <211> 260  
 <212> PRT  
 <213> Homo sapiens

<400> 513  
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Leu Glu Asp Leu Ser Arg Leu Asp Cys Gln Ile Ile Ile Ile Asp Thr  
 20 25 30



Ser Lys Glu Leu Ile Glu Glu Tyr Asp Val Ile Ser Thr Glu Ser Phe  
 35 40 45  
 Val Val Glu Gln Phe Thr Lys Asn Ala Leu Lys Arg Ile Ile Pro Val  
 50 55 60  
 Asp Thr Asp Ala Val Val Ile Asp Phe Asp Asp Asp Leu Gly Lys Ser  
 65 70 75 80  
 Ala Leu Val Thr His Tyr Cys Asn Leu Leu Gly Leu Lys Glu Ile Cys  
 85 90 95  
 Val Lys Thr Glu Asn Arg Asp Asp Ala Glu Ile Leu Lys Thr Leu Gly  
 100 105 110  
 Ala Thr Lys Ile Ile Phe Pro Ser Lys Asp Ala Ala Arg Arg Leu Thr  
 115 120 125  
 Pro Leu Leu Val Ser Pro Asn Leu Ser Thr Tyr Asn Ile Ile Gly Tyr  
 130 135 140  
 Asp Ile Ile Val Ala Glu Thr Val Ile Pro Lys Glu Tyr Val Gly Lys  
 145 150 155 160  
 Thr Leu Phe Glu Ala Asp Leu Arg Arg Glu Cys Gly Ile Thr Val Ile  
 165 170 175  
 Ala Val Arg Asn Leu Ser Asn Ser Arg Tyr Glu Phe Val Asp Gly Asp  
 180 185 190  
 Tyr Phe Phe Leu Lys Asp Asp Lys Ile Val Ile Cys Gly Lys Pro Asp  
 195 200 205  
 Ser Ile Glu Asn Phe Thr Asn Asn Lys Asp Leu Ile Lys Asp Leu Ile  
 210 215 220  
 Ser Gly Ser Lys Glu Asp Glu Asn Leu Asn Lys Asp Ala Glu Lys Lys  
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 Arg Lys Asp Asn  
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<210> 514  
 <211> 236  
 <212> PRT  
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<400> 514  
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 Ala Leu Lys Arg Ile Ile Pro Val Asp Thr Asp Ala Val Val Ile Asp  
 35 40 45

Phe Asp Asp Asp Leu Gly Lys Ser Ala Leu Val Thr His Tyr Cys Asn  
 50 55 60  
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 65 70 75 80  
 Ala Glu Ile Leu Lys Thr Leu Gly Ala Thr Lys Ile Ile Phe Pro Ser  
 85 90 95  
 Lys Asp Ala Ala Arg Arg Leu Thr Pro Leu Leu Val Ser Pro Asn Leu  
 100 105 110  
 Ser Thr Tyr Asn Ile Ile Gly Tyr Asp Ile Ile Val Ala Glu Thr Val  
 115 120 125  
 Ile Pro Lys Glu Tyr Val Gly Lys Thr Leu Phe Glu Ala Asp Leu Arg  
 130 135 140  
 Arg Glu Cys Gly Ile Thr Val Ile Ala Val Arg Asn Leu Ser Asn Ser  
 145 150 155 160  
 Arg Tyr Glu Phe Val Asp Gly Asp Tyr Phe Phe Leu Lys Asp Asp Lys  
 165 170 175  
 Ile Val Ile Cys Gly Lys Pro Asp Ser Ile Glu Asn Phe Thr Asn Asn  
 180 185 190  
 Lys Asp Leu Ile Lys Asp Leu Ile Ser Gly Ser Lys Glu Asp Glu Asn  
 195 200 205  
 Leu Asn Lys Asp Ala Glu Lys Lys Ser Arg Phe Leu Gly Ile Phe Asn  
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 Phe Met Lys Ile Phe Gln Lys Asp Arg Lys Asp Asn  
 225 230 235

<210> 515  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

<400> 515  
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 gatgtgatat ctacagaaag ctttgttggt gagcaattca ctaaaaatgc tttgaaaaga 180  
 ataattccag tagatacaga cgctgttggt attgattttg atgatgatct tggcaaaagt 240  
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 aatagagatg atgctgaaat cttaaaaact cttggggcaa caaaaattat attccaagt 360  
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 attattgggt atgatattat tgttgctgaa actgttattc ccaaagaata tgttggtaaa 480  
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 ttaagtaatt ctaggtatga atttgttgat ggcgattatt tttttttaaa agatgataaa 600  
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 aaagatttaa ttccaggctc taaagaggat gaaaatttaa ataaagatgc tgagaaaaaa 720  
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<210> 516  
 <211> 711

<212> DNA

<213> Homo sapiens

<400> 516

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gatacagacg ctgttggtat tgattttgat gatgatcttg gcaaaagtgc tcttgttact 180
cactattgta atcttttagg tttgaaagaa atatgcgtta agacagaaaa tagagatgat 240
gctgaaatct taaaaactct tggggcaaca aaaattatat ttccaagtaa agatgctgca 300
agaagattaa ctccattatt agtatctcca aatctttcaa cttataatat tattgggtat 360
gatattattg ttgctgaaac tgttattccc aaagaatatg ttggtaaaac tctttttgaa 420
gccgatctta gaagagaatg tgggattaca gttattgctg ttagaaaattt aagtaattct 480
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ggtaaaccag atagcattga aaattttaca aataataaag atttaattaa agattttaatt 600
tcaggctcta aagaggatga aaattttaat aaagatgctg agaaaaaatc tagattttta 660
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<210> 517

<211> 222

<212> PRT

<213> Homo sapiens

<400> 517

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      20             25             30
Tyr Asp Lys Arg Ile Lys Lys Phe Leu Asp Lys Asn Lys Ile Glu Tyr
      35             40             45
Lys Ile Asp Ser Glu Asn Asp Phe Ile Ala Phe Lys Asp Ile Asn Asn
      50             55             60
Asn Glu Lys Glu Glu Val Ile Ile Arg Ser Arg Leu Asn Ser Tyr Lys
      65             70             75             80
Asn Ser Lys Ile Arg Glu Ile Phe Gly Ile Val Lys Val Phe Asp Ile
      85             90             95
Asn Thr Pro Lys Ile Lys Glu Ile Ser Asp Ser Leu Met Ser Asp Ser
      100            105            110
Tyr Asn Asn Arg Val Phe Gly Ser Trp Glu Ile Ile His Asn Ala Glu
      115            120            125
Arg Gly Ile Asn Ser Leu Val Tyr Ile Val Lys Ala Glu Glu Phe Ala
      130            135            140
Asn Asp Thr Phe Leu Leu Asp Ala Ile Asp Glu Ile Ala Ser Thr Ile
      145            150            155            160
Ser Ile Phe Lys Lys Ile Ile Thr Thr Asn Asn Glu Asn Ile Asp Asn
      165            170            175
Asn Glu Glu Asn Asn Asn Thr Asn Glu Ser Asn Glu Gln Pro Thr Leu
      180            185            190
Lys Gln Glu Lys Thr Asn Ser Thr Lys Glu Ser Asn Asn Glu Leu Lys
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aattcaaaga taagagaaat atttgggaatt gttaaagtat ttgatataaa cacaccaaaa 300  
ataaaagaaa tatctgactc gcttatgagc gatagttata ataacagagt atttggatcg 360  
tgggagatta ttcataatgc agaaagagga atcaactctt tggatatatat tgtaaaagca 420  
gaagaatttg caaatgatac atttttgctt gatgcaattg atgagattgc ctcaacaata 480  
agtatttttca aaaaaataat aacaaccaac aacgaaaaca ttgataataa tgaagaaaat 540  
aacaatacaa atgaatcaaa tgaacagccc accttaaaagc aagaaaaaac aaattcaaca 600  
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<210> 520

<211> 594

<212> DNA

<213> Homo sapiens

<400> 520

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gaaaaagaag aagtaatcat cagatcaaga ctaaactcat ataaaaattc aaagataaga 180  
gaaatatttg gaattgtaa agtatttgat ataaacacac caaaaataaa agaaatatct 240  
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aatgcagaaa gaggaatcaa ctctttggta tatattgtaa aagcagaaga atttgcaaat 360  
gatacatttt tgcttgatgc aattgatgag attgcctcaa caataagtat tttcaaaaaa 420  
ataataacaa ccaacaacga aaacattgat aataatgaag aaaataacaa tacaatatga 480  
tcaaatgaac agcccacctt aaagcaagaa aaaacaaatt caacaaaaga atctaataac 540  
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<210> 521

<211> 175

<212> PRT

<213> Homo sapiens

<400> 521

Met Arg Val Asp Leu Leu Pro Leu Val Glu Leu Ser Leu Tyr Ile Asn  
1 5 10 15

Leu Ser Phe Cys Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu  
20 25 30

Glu Leu Lys Cys His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr  
35 40 45

Leu Tyr Ile Lys His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu  
50 55 60

Lys Phe Ile Phe Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu  
65 70 75 80

Glu Glu Phe Thr Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys  
85 90 95

Phe Lys Leu Leu Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val  
100 105 110

Gln Ser Phe Ser Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile  
115 120 125

Ser Tyr Lys Lys Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro  
130 135 140

Phe Asp Leu Asn Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys

145

150

155

160

Ser His Leu Lys Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala  
 165 170 175

&lt;210&gt; 522

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 522

Cys Lys Asp Phe Ser Ile Phe Asn Arg Ile Leu Glu Glu Leu Lys Cys  
 1 5 10 15

His Leu Ile Leu Leu Gly His Pro Ile Ile Lys Thr Leu Tyr Ile Lys  
 20 25 30

His Val Asp Phe Cys Leu Ser Arg Gln Asp Asn Leu Lys Phe Ile Phe  
 35 40 45

Thr Ser Leu Ser Lys Tyr Ile Asn Leu Glu Leu Leu Glu Glu Phe Thr  
 50 55 60

Leu Glu Ile Ile Pro Gly Tyr Val Asp Phe Glu Lys Phe Lys Leu Leu  
 65 70 75 80

Asp Glu Phe Cys Ile Thr Arg Ile Asn Leu Asn Val Gln Ser Phe Ser  
 85 90 95

Leu Glu Phe Arg Lys Ile Val Gly Ile Pro Glu Ile Ser Tyr Lys Lys  
 100 105 110

Leu Asn Ile Leu Ile Asn Asn Ile Arg Lys Phe Pro Phe Asp Leu Asn  
 115 120 125

Ile Asp Met Thr Val Asn Met Pro Leu Gln Lys Lys Ser His Leu Lys  
 130 135 140

Arg Asp Leu Gln Arg Ile Ala Phe Ile Tyr Ala  
 145 150 155

&lt;210&gt; 523

&lt;211&gt; 528

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 523

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 caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 240  
 gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 300  
 gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagttttaga 360  
 aagattgtgg ggataccgga aatttcttat aaaaaattga atattttgat taacaatatt 420  
 agaaagtttc cttttgattt gaatattgac atgactgtca atatgccttt gcaaaaaaaa 480  
 tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 528

&lt;210&gt; 524

&lt;211&gt; 468

&lt;212&gt; DNA

<213> Homo sapiens

<400> 524

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caagataatt taaaatttat tttcacttct ttgtccaagt atattaattt ggagttatta 180
gaagaattta ctttagaaat tattccgggt tatgttgatt ttgaaaaatt caaacttttg 240
gatgaatttt gtattactag aattaatctt aatgttcaaa gtttttcttt agagttttaga 300
aagattgtgg ggatacccgga aatttcttat aaaaaattga atattttgat taacaatatt 360
agaaagtttc cttttgattt gaatttgac atgactgtca atatgccttt gcaaaaaaaaa 420
tctcatctca agcgagattt gcaaagaatt gctttcatat atgcctga 468
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<210> 525

<211> 274

<212> PRT

<213> Homo sapiens

<400> 525

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Met Leu Lys Thr Leu Thr Lys Ile Ile Thr Ile Ser Cys Leu Ile Val
  1                      5                      10                      15
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```
Gly Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr
                20                      25                      30
```

```
Leu Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu
        35                      40                      45
```

```
Ile Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser
        50                      55                      60
```

```
Val Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn
        65                      70                      75                      80
```

```
Asn Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe
                85                      90                      95
```

```
Trp Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe
        100                      105                      110
```

```
Thr Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro
        115                      120                      125
```

```
Asn Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala
        130                      135                      140
```

```
Lys Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys
        145                      150                      155                      160
```

```
Asn Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn
                165                      170                      175
```

```
Gln Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu
        180                      185                      190
```

```
Ser Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile
        195                      200                      205
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```
Lys Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile
        210                      215                      220
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Pro Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile  
 225 230 235 240

Lys Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile  
 245 250 255

Gln Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile  
 260 265 270

Gln Thr

<210> 526

<211> 257

<212> PRT

<213> Homo sapiens

<400> 526

Cys Ala Ser Leu Pro Tyr Thr Pro Pro Lys Gln Asn Leu Asn Tyr Leu  
 1 5 10 15

Met Glu Leu Leu Pro Gly Ala Asn Leu Tyr Ala His Val Asn Leu Ile  
 20 25 30

Lys Asn Arg Ser Ile Tyr Asn Ser Leu Ser Pro Lys Tyr Lys Ser Val  
 35 40 45

Leu Gly Leu Ile Ser Asn Leu Tyr Phe Ser Tyr Lys Lys Glu Asn Asn  
 50 55 60

Asp Phe Ala Leu Leu Ile Met Gly Asn Phe Pro Lys Asp Ile Phe Trp  
 65 70 75 80

Gly Ile His Lys Asn Arg Asn Thr Glu Ser Ile Gly Asn Ile Phe Thr  
 85 90 95

Asn Pro Lys Trp Lys Leu Lys Asn Ser Asn Ile Tyr Ile Ile Pro Asn  
 100 105 110

Lys Ala Arg Thr Ser Ile Ala Ile Thr Gln Lys Asp Ile Thr Ala Lys  
 115 120 125

Asp Asn Asn Met Leu Thr Thr Lys Tyr Ile Gly Glu Ile Glu Lys Asn  
 130 135 140

Glu Met Phe Phe Trp Ile Gln Asp Pro Thr Leu Leu Leu Pro Asn Gln  
 145 150 155 160

Ile Val Ser Ser Lys Asn Leu Ile Pro Phe Ser Ser Gly Thr Leu Ser  
 165 170 175

Ile Asn Ser Leu Asn Gln Glu Glu Tyr Ile Phe Lys Ser Leu Ile Lys  
 180 185 190

Thr Asn Asn Pro Pro Ile Leu Lys Ile Leu Ser Lys Lys Leu Ile Pro  
 195 200 205

Thr Val Leu Thr Asn Met Thr Asn Leu Thr Ile Ser Ser His Ile Lys  
 210 215 220



Thr Thr Ile Lys Asp Gln Asn Thr Val Glu Ile Glu Phe Asn Ile Gln  
 225 230 235 240

Lys Ser Ser Val Glu Ser Leu Ile Glu Lys Leu Ala Ser Asn Ile Gln  
 245 250 255

Thr

<210> 527  
 <211> 825  
 <212> DNA  
 <213> Homo sapiens

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 aattttatacg cccatgtaaa tttaattaaa aacagggtcta ttataaactc ttttagccct 180  
 aaatataaat cagttcttgg gcttataagc aattttatact ttagctataa aaaagaaaat 240  
 aacgattttg ctctactaat aatgggtaat ttcccaaaaag atatttttctg gggaattcat 300  
 aaaaatagaa atacagaatc aataggcaat atattttacaa atccaaaatg gaaacttaaa 360  
 aattcaaata tatacattat tccaaacaaa gctagaacta gcattgcaat aacccaaaaa 420  
 gatataaccg caaaagacaa taatatgcta acaacaaaat atattgggga aatagaaaaa 480  
 aatgaaatgt ttttttggat tcaagatcca acattattgc tcccaaacca aatagtaagc 540  
 agcaaaaatt taattccctt tagcagtggg actttgtcta taaacagctt aaatcaagaa 600  
 gaatatattt ttaaaccctt aatcaaaaaca aataatccac caatactaaa aatattgtca 660  
 aaaaagttaa ttccaaccgt cttgacaaac atgacaaacc tcacaatatc aagccacata 720  
 aagaccacaa taaaagacca aaatcagggtt gaaatagaat ttaatatcca aaaatctagt 780  
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 <211> 774  
 <212> DNA  
 <213> Homo sapiens

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 ttaagcccta aatataaatc agttcttggg cttataagca atttataact tagctataaa 180  
 aaagaaaata acgattttgc tctactaata atgggtaatt tcccaaaaaga tatttttctgg 240  
 ggaattcata aaaatagaaa tacagaatca ataggcaata tatttacaaa tccaaaatgg 300  
 aaacttaaaa attcaaatat atacattatt ccaaacaaag ctagaactag cattgcaata 360  
 acccaaaaag atataaccgc aaaagacaat aatttgctaa caacaaaata tattggggaa 420  
 atagaaaaaa atgaaatggt tttttggatt caagatccaa cattattgct cccaaaccaa 480  
 atagtaagca gcaaaaattt aattcccttt agcagtggaa ctttgtctat aaacagctta 540  
 aatcaagaag aatatatatt taaatcctta atcaaaaaca ataatccacc aatactaaaa 600  
 atattgtcaa aaaagttaat tccaaccgtc ttgacaaaca tgacaaacct cacaatatca 660  
 agccacataa agaccacaat aaaagaccaa aatcagggtt aaatagaatt taatattcaa 720  
 aaatctagt ttgaaagcct tatagaaaaa ctagcttcaa atattcaaac ctaa 774

<210> 529  
 <211> 123  
 <212> PRT  
 <213> Homo sapiens

<400> 529  
 Met Asn Thr Lys Thr Leu Tyr Leu Ile Ser Leu Ile Leu Leu Ala Cys  
 1 5 10 15

Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro Lys

20 25 30

Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys Asp  
35 40 45

Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp Tyr  
50 55 60

Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu Lys  
65 70 75 80

Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile Leu  
85 90 95

Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile Asn  
100 105 110

Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
115 120

<210> 530  
<211> 108  
<212> PRT  
<213> Homo sapiens

<400> 530  
Cys Asn Lys Asn Asn Lys Ile Pro Leu Ile Gln Lys Leu Asp Leu Pro  
1 5 10 15

Lys Ser Ser Ile Leu Gly Phe Ser Asn Lys Met Gly Ile Ile Ile Lys  
20 25 30

Asp Tyr Ala Phe Leu Ser Lys Ser Thr Lys Lys Asn Ser Glu Leu Asp  
35 40 45

Tyr Asp Tyr Ala Ile Leu Leu Arg Lys Asp Glu Val Val Lys Ile Glu  
50 55 60

Lys Thr Leu Glu Lys Thr Glu Arg Tyr Gly Ile Glu Gly Asn Trp Ile  
65 70 75 80

Leu Val Asn Tyr Lys Gly Thr Lys Arg Tyr Ile Phe Ser Lys Asp Ile  
85 90 95

Asn Ile Val Asn Asn Leu Ile Ile Asp His Ser Lys  
100 105

<210> 531  
<211> 372  
<212> DNA  
<213> Homo sapiens

<400> 531  
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aaaatgggca taataataaa agattatgct tttcttagta aaagcactaa gaaaaatagc 180  
gaattggatt atgattacgc aattctactc agaaaagacg aagtcgtaaa aattgaaaaa 240  
acactagaaa aaacagagcg ctatggaatt gaaggaaatt ggatcctagt caattacaag 300  
ggaactaaaa gatacatctt tagcaaagac atcaatatag tcaacaattt aataattgat 360  
cattctaaat ag 372

<210> 532  
 <211> 327  
 <212> DNA  
 <213> Homo sapiens

<400> 532  
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 actaagaaaa atagcgaatt ggattatgat tacgcaattc tactcagaaa agacgaagtc 180  
 gtaaaaattg aaaaaacact agaaaaaaca gagcgctatg gaattgaagg aaattggatc 240  
 ctagtcaatt acaagggaac taaaagatac atcttttagca aagacatcaa tatagtcaac 300  
 aatttaataa ttgatcattc taaatag 327

<210> 533  
 <211> 155  
 <212> PRT  
 <213> Homo sapiens

<400> 533  
 Met Lys Lys Leu Ile Ile Ile Phe Thr Leu Phe Leu Ser Gln Ala Cys  
 1 5 10 15  
 Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys Ile  
 20 25 30  
 Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn His  
 35 40 45  
 Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala Ile  
 50 55 60  
 Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr Thr  
 65 70 75 80  
 Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr Arg  
 85 90 95  
 Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala Trp  
 100 105 110  
 Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr Asp  
 115 120 125  
 Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile Phe  
 130 135 140  
 Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn  
 145 150 155

<210> 534  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens

<400> 534  
 Cys Asn Leu Ser Thr Met His Lys Ile Asp Thr Lys Glu Asp Met Lys  
 1 5 10 15  
 Ile Leu Tyr Ser Glu Ile Ala Glu Leu Arg Lys Lys Leu Asn Leu Asn

20	25	30
His Leu Glu Ile Asp Asp Thr Leu Glu Lys Val Ala Lys Glu Tyr Ala		
35	40	45
Ile Lys Leu Gly Glu Asn Arg Thr Ile Thr His Thr Leu Phe Gly Thr		
50	55	60
Thr Pro Met Gln Arg Ile His Lys Tyr Asp Gln Ser Phe Asn Leu Thr		
65	70	75
Arg Glu Ile Leu Ala Ser Gly Ile Glu Leu Asn Arg Val Val Asn Ala		
85	90	95
Trp Leu Asn Ser Pro Ser His Lys Glu Ala Leu Ile Asn Thr Asp Thr		
100	105	110
Asp Lys Ile Gly Gly Tyr Arg Leu Lys Thr Thr Asp Asn Ile Asp Ile		
115	120	125
Phe Val Val Leu Phe Gly Lys Arg Lys Tyr Lys Asn		
130	135	140

<210> 535  
 <211> 468  
 <212> DNA  
 <213> Homo sapiens

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 agaaaaaat taaatctaaa ccatctagaa atagatgata cccttgaaaa agttgcaaaa 180  
 gaatatgcca ttaaactggg agaaaataga acaataactc acaccctttt tggcacaacc 240  
 ccaatgcaaa gaatacataa atacgatcaa tcctttaatt taacaagaga aatactggca 300  
 tcaggaattg aacttaacag agtagttaat gcatggctta atagtccaag ccacaaagaa 360  
 gctcttatta atacagatac cgataaaaata ggtggctata gattaaaaac gactgacaat 420  
 atagatatat ttgtagttct ttttggaata agaaaatata agaattga 468

<210> 536  
 <211> 423  
 <212> DNA  
 <213> Homo sapiens

<400> 536  
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 gaaaaagttg caaaagaata tgccattaaa ctgggagaaa atagaacaat aactcacacc 180  
 ctttttggca caaccctaat gcaaagaata cataaatacg atcaatcctt taatttaaca 240  
 agagaaatac tggcatcagg aattgaactt aacagagtag ttaatgcatg gcttaatagt 300  
 ccaagccaca aagaagctct tattaatata gataccgata aaataggtgg ctatagatta 360  
 aaaacgactg acaatataga tatatttgta gttctttttg gaaaaagaaa atataagaat 420  
 tga 423

<210> 537  
 <211> 157  
 <212> PRT  
 <213> Homo sapiens

<400> 537  
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1                      5                      10                      15  
 Ile Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val  
                          20                      25                      30  
 Phe Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu  
                          35                      40                      45  
 Arg Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp  
                          50                      55                      60  
 Phe Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser  
                          65                      70                      75                      80  
 Asp Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val  
                                  85                      90                      95  
 Asn Leu Ser Arg Glu Phe Tyr Asp Ser Phe Asn Asn Gly Asp Tyr Asn  
                                  100                      105                      110  
 Glu Ser Asn Glu Ser Phe Asp Val Lys Val Asn Leu Phe Ala Met Ser  
                                  115                      120                      125  
 Leu Ile Lys Thr Met Arg Phe Asn Tyr Pro Gly Lys Ile Lys Lys Ile  
                                  130                      135                      140  
 Val Ile Leu Val Glu Gly Cys Ile Leu Lys Glu Gln Ser  
                                  145                      150                      155  
  
 <210> 538  
 <211> 140  
 <212> PRT  
 <213> Homo sapiens  
  
 <400> 538  
 Cys Met Val Phe Leu Asn Tyr Asp Asn Leu Phe Ser Lys Lys Val Phe  
                                  1                      5                      10                      15  
 Tyr Phe His Ser Ser Lys Gly Phe Val Ala Asn Leu Arg Tyr Leu Arg  
                                  20                      25                      30  
 Asp Glu Gln Asn Leu Lys Asp Asn Leu Asp Leu Leu Val Lys Asp Phe  
                                  35                      40                      45  
 Leu Leu Gly Ser Asn Glu Gly Phe Ser Phe Gly Phe Leu Leu Ser Asp  
                                  50                      55                      60  
 Ser Arg Phe Leu Tyr Ser Phe Leu Lys Asn Gly Val Tyr Tyr Val Asn  
                                  65                      70                      75                      80  
 Leu Ser Arg Glu Phe Tyr Asp Ser Phe Asn Asn Gly Asp Tyr Asn Glu  
                                  85                      90                      95  
 Ser Asn Glu Ser Phe Asp Val Lys Val Asn Leu Phe Ala Met Ser Leu  
                                  100                      105                      110  
 Ile Lys Thr Met Arg Phe Asn Tyr Pro Gly Lys Ile Lys Lys Ile Val  
                                  115                      120                      125  
 Ile Leu Val Glu Gly Cys Ile Leu Lys Glu Gln Ser

130

135

140

<210> 539  
 <211> 474  
 <212> DNA  
 <213> Homo sapiens

<400> 539  
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 tttttaaatt atgataatct tttttcaaaa aagggttttt attttcattc tagcaaggga 120  
 tttgttgcta atttaagata ttttaagagat gaacaaaatt tgaaagataa tttagatctt 180  
 ttagtaaaaag attttctttt aggaagcaat gaagggtttt cttttgggtt tttattaagt 240  
 gattcaagat ttttatattc ttttttaaag aatggagttt attatgtaa tctttcaaga 300  
 gaattttatg attcttttaa taatggtgat tataatgaat ctaatgaatc ttttgatgtt 360  
 aagggtcaatc tttttgctat gtctttaata aaaacaatgc gctttaacta tcctggtaag 420  
 ataaaaaaga ttgttattct tgttgaaggg tgtatcttaa aggagcaaag ttga 474

<210> 540  
 <211> 423  
 <212> DNA  
 <213> Homo sapiens

<400> 540  
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 agcaagggat ttgttgctaa ttttaagatat ttaagagatg aacaaaattt gaaagataat 120  
 ttagatcttt tagtaaaaaga ttttctttta ggaagcaatg aagggttttc ttttgggtt 180  
 ttattaagtg attcaagatt tttatattct tttttaaaga atggagttaa ttatgtaaat 240  
 ctttcaagag aattttatga ttcttttaat aatggtgatt ataatgaatc taatgaatct 300  
 tttgatgtta aggtcaatct ttttgctatg tctttaataa aaacaatgcg ctttaactat 360  
 cctggtaaga taaaaaagat tgttattctt gttgaagggt gtatcttaaa ggagcaaagt 420  
 tga 423

<210> 541  
 <211> 168  
 <212> PRT  
 <213> Homo sapiens

<400> 541  
 Met Ala Ile Lys Tyr Ala Arg Glu Asn Asn Ile Pro Phe Leu Gly Ile  
 1 5 10 15  
 Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys  
 20 25 30  
 Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro  
 35 40 45  
 Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 50 55 60  
 Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 65 70 75 80  
 Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 85 90 95  
 Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 100 105 110  
 Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met

400

115 120 125

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 130 135 140

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 145 150 155 160

Leu Gly Leu Ile Lys Ala Cys Ile  
 165

<210> 542  
 <211> 152  
 <212> PRT  
 <213> Homo sapiens

<400> 542

Cys Leu Gly Leu Gln Leu Ala Val Ile Glu Phe Ala Arg Asn Val Cys  
 1 5 10 15

Gly Ile Leu Asp Ala Asp Thr Glu Glu Asn Leu Ala Arg Asp Lys Pro  
 20 25 30

Leu Lys Ser Pro Val Ile His Leu Leu Pro Glu Gln Lys Gly Ile Lys  
 35 40 45

Asp Lys Gly Ala Thr Met Arg Leu Gly Gly Tyr Pro Val Ile Leu Lys  
 50 55 60

Lys Asn Thr Ile Ala Phe Lys Leu Tyr Gly Gln Asp Arg Ile Ile Glu  
 65 70 75 80

Arg Phe Arg His Arg Tyr Glu Val Asn Asn Asp Tyr Ile Asp Leu Phe  
 85 90 95

Ala Lys Asn Gly Leu Ile Val Ser Gly Phe Ser Ser Asp Phe Lys Met  
 100 105 110

Ala Lys Leu Ile Glu Ile Pro Glu Asn Lys Phe Phe Val Ala Cys Gln  
 115 120 125

Phe His Pro Glu Leu Ile Thr Arg Ile Glu Asn Pro Ala Lys Leu Phe  
 130 135 140

Leu Gly Leu Ile Lys Ala Cys Ile  
 145 150

<210> 543  
 <211> 507  
 <212> DNA  
 <213> Homo sapiens

<400> 543

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 cagcttgctg taatagaatt tgctcgtaat gtttggtgaa tacttgatgc tgatacggag 120  
 gaaaatttag caagagacaa gcccttaaaa agtctgttta tccatttact tcctgagcaa 180  
 aagggaatta aagataaggg cgctacaatg aggcttggtg gatatcctgt gattcttaaa 240  
 aagaatacaa tagcttttaa actttatggc caagatcgga taattgaaag atttagacat 300  
 aggtatgaag tcaataatga ttatatagat ttatttgcaa aaaatgggct tatagtatct 360  
 ggattttcaa gtgattttta aatggcaaaa ttaatagaaa ttcttgaaaa taaatttttc 420

gtagcttgcc agtttcatcc agaacttatt acaagaatag aaaatccagc caagcttttt 480  
ctaggattaa ttaaagcttg tatttga 507

<210> 544  
<211> 459  
<212> DNA  
<213> Homo sapiens

<400> 544  
tgtcttggtt tgcagcttgc tgtaatagaa tttgctcgta atgtttgtgg aatacttgat 60  
gctgatacgg aggaaaattt agcaagagac aagcccttaa aaagtcctgt tatccattta 120  
cttcctgagc aaaagggaat taaagataag ggcgctacaa tgaggcttgg tggatattcct 180  
gtgattctta aaaagaatac aatagctttt aaactttatg gccaaagatcg gataattgaa 240  
agatttagac ataggtatga agtcaataat gattatatag atttatttgc aaaaaatggg 300  
cttatagtat ctggattttc aagtgatttt aaaatggcaa aattaataga aattcctgaa 360  
aataaatttt tcgtagcttg ccagtttcat ccagaactta ttacaagaat agaaaaatcca 420  
gccaaagcttt ttctaggatt aattaaagct tgtatttga 459

<210> 545  
<211> 497  
<212> PRT  
<213> Homo sapiens

<220>  
<221> SITE  
<222> (198)  
<223> Xaa equals any of the naturally occurring L-amino acids

<400> 545  
Met Asn Lys Thr Lys Asn Arg Ser Leu Thr Tyr Phe Ile Ile Leu Ser  
1 5 10 15  
Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
20 25 30  
Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
35 40 45  
Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
50 55 60  
Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
65 70 75 80  
Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
85 90 95  
Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
100 105 110  
Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
115 120 125  
Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr  
130 135 140  
Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys  
145 150 155 160  
Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu



				165					170							175
Asn	Ile	Glu	Glu	Glu	Thr	Asp	Asp	Asp	Phe	Glu	Asp	Asn	Tyr	Glu	Tyr	
			180					185					190			
Asn	Asp	Glu	Ile	Glu	Xaa	Thr	Asn	Glu	Asp	Asn	Tyr	Pro	Ser	Asn	Glu	
		195					200					205				
Gly	Ile	Ile	Asn	Asn	Leu	Lys	Glu	Asn	Leu	Asn	Glu	Asn	Glu	Lys	Tyr	
	210					215					220					
Tyr	Ala	Ile	Asn	Glu	Lys	Lys	Ile	Asp	Glu	Leu	Glu	Asp	Arg	Ile	Asn	
225					230					235					240	
Glu	Asn	Glu	Asn	Thr	Ile	Leu	Asp	Leu	Gln	Arg	Glu	Leu	Arg	Asn	Phe	
				245					250					255		
Lys	Lys	Lys	Asp	Asn	Ser	Asp	Lys	Asn	Leu	Glu	Glu	Ile	Glu	Glu	Asn	
			260					265					270			
Leu	Ser	Ser	Ile	Gly	Arg	Ile	Ile	Asn	Asp	Leu	Lys	Arg	Lys	Ile	Ser	
		275					280					285				
Ala	Asn	Glu	Ala	Ile	Asn	Lys	Glu	Asn	Gln	Lys	Lys	Ile	Arg	Thr	Asp	
	290					295					300					
Lys	His	Lys	Leu	Lys	Glu	Leu	Glu	Asp	Lys	Ile	Lys	Glu	Asn	Glu	Glu	
305					310					315					320	
Thr	Ile	Leu	Lys	Leu	Gln	Lys	Glu	Leu	Asn	Asn	Phe	Lys	Lys	Lys	Glu	
				325					330					335		
Ile	Tyr	Gln	Lys	Pro	Leu	Asn	Glu	Glu	Thr	Phe	Thr	Pro	Ser	Ile	Thr	
			340					345					350			
Ser	Lys	Asn	Asp	Asp	Leu	Glu	Glu	Asn	Lys	Lys	Leu	Lys	Lys	Glu	Tyr	
		355					360					365				
Leu	Lys	Pro	Ile	Glu	Lys	Lys	Glu	Ser	Arg	Asp	Leu	Glu	Glu	Asn	Thr	
	370					375					380					
Lys	Ser	Thr	Pro	Lys	Thr	Thr	Met	Ile	Lys	Thr	Ala	Asp	Phe	Gln	Ile	
385					390					395					400	
Tyr	Pro	Asp	Ile	Tyr	Leu	Asn	Asn	Tyr	Lys	Phe	Lys	Glu	Lys	Gly	Asp	
				405					410					415		
Gln	Phe	Ala	Phe	Lys	Lys	Glu	Asn	Thr	Tyr	Tyr	Ile	Glu	Ile	Asp	Pro	
			420					425					430			
Thr	Asn	Asn	Leu	Asn	Glu	Ala	Leu	Lys	Asn	His	Glu	Ile	Ile	Ser	Lys	
		435					440					445				
Tyr	Lys	Phe	Glu	Lys	Tyr	Phe	Ile	Asn	Pro	Ile	Leu	Lys	Asn	Lys	Glu	
	450					455					460					
Glu	Phe	Phe	Arg	Asn	Leu	Ile	Glu	Val	Lys	Asn	Ile	His	Glu	Leu	Gly	
465					470					475					480	
Ile	Met	Tyr	Lys	Asn	Leu	Lys	Pro	Glu	Phe	Lys	Gln	Ile	Lys	Ile	Ile	

Lys

&lt;210&gt; 546

&lt;211&gt; 481

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; SITE

&lt;222&gt; (182)

&lt;223&gt; Xaa equals any of the naturally occurring L-amino acids

&lt;400&gt; 546

Cys Ile Ser Leu Phe Gly Ala Asn Asn Asn Thr Ile Ser Tyr Ser Ser  
 1 5 10 15

Ile Glu Ile Pro Leu Glu Asp Leu Ser Glu Glu Phe Lys Ser Ser Gly  
 20 25 30

Asn Lys Ser Asp Gln Ile Asn Thr Ser Lys His Leu Asn Lys Asn Ile  
 35 40 45

Val Ser Tyr Glu Asp Pro Lys Lys Gly Lys Asp Leu Lys Leu Pro Glu  
 50 55 60

Asn Ile Arg Asp Lys Lys Leu Pro Gln Lys Arg Met Asp Glu Asn Asp  
 65 70 75 80

Leu Lys Ser Val Ile Glu Asn Tyr Glu Asn Lys Ile Lys Asn Ile Glu  
 85 90 95

Lys Leu Leu Lys Thr Lys Asn Gln Lys Thr Ser Glu Asn Glu Asn Lys  
 100 105 110

Lys Ile Glu Ser Ile Glu Lys Lys Ala Lys Lys Tyr Glu Ile Leu Thr  
 115 120 125

Asn Lys Leu Lys Asn Glu Ile Val Glu Ile Lys Lys Leu Leu Asn Lys  
 130 135 140

Lys Ile Lys Pro Lys Glu Asp Glu Asn Tyr Glu Lys Ile Asn Ile Glu  
 145 150 155 160

Asn Ile Glu Glu Glu Thr Asp Asp Asp Phe Glu Asp Asn Tyr Glu Tyr  
 165 170 175

Asn Asp Glu Ile Glu Xaa Thr Asn Glu Asp Asn Tyr Pro Ser Asn Glu  
 180 185 190

Gly Ile Ile Asn Asn Leu Lys Glu Asn Leu Asn Glu Asn Glu Lys Tyr  
 195 200 205

Tyr Ala Ile Asn Glu Lys Lys Ile Asp Glu Leu Glu Asp Arg Ile Asn  
 210 215 220

Glu Asn Glu Asn Thr Ile Leu Asp Leu Gln Arg Glu Leu Arg Asn Phe  
 225 230 235 240

Lys Lys Lys Asp Asn Ser Asp Lys Asn Leu Glu Glu Ile Glu Glu Asn  
 245 250 255  
 Leu Ser Ser Ile Gly Arg Ile Ile Asn Asp Leu Lys Arg Lys Ile Ser  
 260 265 270  
 Ala Asn Glu Ala Ile Asn Lys Glu Asn Gln Lys Lys Ile Arg Thr Asp  
 275 280 285  
 Lys His Lys Leu Lys Glu Leu Glu Asp Lys Ile Lys Glu Asn Glu Glu  
 290 295 300  
 Thr Ile Leu Lys Leu Gln Lys Glu Leu Asn Asn Phe Lys Lys Lys Glu  
 305 310 315 320  
 Ile Tyr Gln Lys Pro Leu Asn Glu Glu Thr Phe Thr Pro Ser Ile Thr  
 325 330 335  
 Ser Lys Asn Asp Asp Leu Glu Glu Asn Lys Lys Leu Lys Lys Glu Tyr  
 340 345 350  
 Leu Lys Pro Ile Glu Lys Lys Glu Ser Arg Asp Leu Glu Glu Asn Thr  
 355 360 365  
 Lys Ser Thr Pro Lys Thr Thr Met Ile Lys Thr Ala Asp Phe Gln Ile  
 370 375 380  
 Tyr Pro Asp Ile Tyr Leu Asn Asn Tyr Lys Phe Lys Glu Lys Gly Asp  
 385 390 395 400  
 Gln Phe Ala Phe Lys Lys Glu Asn Thr Tyr Tyr Ile Glu Ile Asp Pro  
 405 410 415  
 Thr Asn Asn Leu Asn Glu Ala Leu Lys Asn His Glu Ile Ile Ser Lys  
 420 425 430  
 Tyr Lys Phe Glu Lys Tyr Phe Ile Asn Pro Ile Leu Lys Asn Lys Glu  
 435 440 445  
 Glu Phe Phe Arg Asn Leu Ile Glu Val Lys Asn Ile His Glu Leu Gly  
 450 455 460  
 Ile Met Tyr Lys Asn Leu Lys Pro Glu Phe Lys Gln Ile Lys Ile Ile  
 465 470 475 480  
 Lys

<210> 547  
 <211> 1493  
 <212> DNA  
 <213> Homo sapiens

<400> 547  
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 tttgggggcta ataataatac aataagctac tctagcattg aaattcctct agaagactta 120  
 agtgaagaat ttaaaaagttc tgggaataaaa agcgatcaaa taaatacctc aaaacattta 180  
 aacaaaaaca tagtttctta tgaagaccca aaaaagggtta aagatctaaa attgccagaa 240  
 aatataagag acaaaaaact accccaaaaa agaatggacg aaaatgatct aaaatctgta 300

attgaaaatt	atgaaaataa	aattaaaaac	atagaaaagc	ttttaaaaac	caaaaatcaa	360
aaaacatcgg	aaaatgaaaa	taaaaaaata	gaatcaatcg	aaaaaaaagc	aaaaaaatat	420
gaaattttta	ccaataaaatt	aaaaaacgaa	atagtagaaa	taaaaaaagct	ccttaacaaa	480
aaaatcaagc	ctaaagaaga	tgaaaattac	gaaaaaataa	atattgaaaa	cattgaagaa	540
gaaactgatg	atgattttga	agacaattat	gaatataatg	atgaaattga	agaacaaatg	600
aggacaatta	cccttcta	gaaggaataa	taaacaatct	aaaagaaaat	ccttaatgaaa	660
acgaaaaata	ttatgctatt	aatgaaaaaa	aatcgatga	acttgaagac	agaatcaacg	720
agaatgaaaa	cactatttta	gacttgcaaa	gagaattaag	gaatttttaa	aaaaaagata	780
actcagataa	aaacttagaa	gaaattgagg	aaaattttatc	ttcaatagga	agaataatta	840
atgatctaaa	aagaaaaatc	agcgcaaatg	aagcaataaa	caaagaaaat	caaaaaaaa	900
taagaactga	taaacacaaa	ctcaaagaat	tagaagataa	aataaaggaa	aatgaagaga	960
ctatttttaa	acttcaaaaa	gaattaaaca	atttttaaaaa	aaaagaaatt	tatcaaaaaac	1020
ccttaaatga	agaaactttc	actccaagca	ttacaagtaa	aaatgacgac	ttagaagaaa	1080
ataagaaatt	aaaaaaggaa	tattttaaagc	ccatagaaaa	aaaagaaagc	cgagatctag	1140
aagaaaatac	taaaagcacc	ccaaaaacaa	ctatgataaa	aacagcagat	tttcaaactc	1200
accctgacat	atatcttaat	aattataaat	ttaaagaaaa	gggagatcaa	tttgcatcta	1260
aaaaagaaaa	cacatactat	attgaaatag	atcccactaa	caattttaa	gaggctttta	1320
aaaatcatga	aataatctca	aaatataaat	ttgaaaaata	tttcattaac	cctattctaa	1380
aaaataaaga	agaatttttt	agaaacttaa	tagaagtcaa	aaatatccac	gaactaggaa	1440
ttatgtataa	aatctaaag	cctgaattta	agcaataaaa	aataattaaa	ttaa	1493

<210> 548

<211> 1445

<212> DNA

<213> Homo sapiens

<400> 548

tgtatatcat	tatttggggc	taataataat	acaataagct	actctagcat	tgaaattcct	60
ctagaagact	taagtgaaga	attttaaagt	tctgggaata	aaagcgatca	aataaatacc	120
tcaaaacatt	taaacaaaaa	catagtttct	tatgaagacc	caaaaaagg	taaagatcta	180
aaattgccag	aaaatataag	agacaaaaaa	ctaccccaaa	aaagaatgga	cgaaaatgat	240
ctaaaatctg	taattgaaaa	ttatgaaaat	aaaattaaaa	acatagaaaa	gcttttataa	300
accaaaaatc	aaaaaacatc	ggaaaatgaa	aataaaaaaa	tagaatcaat	cgaaaaaaaa	360
gcaaaaaaat	atgaaatttt	aaccaataaa	ttaaaaaacg	aaatagtaga	aataaaaaag	420
ctccttaaca	aaaaaatcaa	gcctaaagaa	gatgaaaatt	acgaaaaaat	aaatattgaa	480
aacattgaag	aagaaactga	tgatgatatt	gaagacaatt	atgaatataa	tgatgaaatt	540
gaagaaacaaa	tgaggacaat	tacccttcta	atgaaggaat	aataaacaat	ctaaaagaaa	600
atcttaaatga	aaacgaaaaa	tattatgcta	ttaatgaaaa	aaaaatcgat	gaacttgaag	660
acagaatcaa	cgagaatgaa	aacactattt	tagacttgca	aagagaatta	aggaatttta	720
aaaaaaaaga	taactcagat	aaaaacttag	aagaaattga	ggaaaattta	tcttcaatag	780
gaagaataat	taatgatcta	aaaagaaaaa	tcagcgcaaa	tgaagcaata	aacaaagaaa	840
atcaaaaaaa	aataagaact	gataaacaca	aactcaaaga	attagaagat	aaaataaagg	900
aaaatgaaga	gactatttta	aaacttcaaa	agaattataa	caatttttaa	aaaaaagaaa	960
tttatcaaaa	acccttaaat	gaagaaactt	tcaactcaag	cattacaagt	aaaaatgacg	1020
acttagaaga	aaataagaaa	ttaaaaaagg	aatatttttaa	gcccatagaa	aaaaaagaaa	1080
gccgagatct	agaagaaaaat	actaaaagca	ccccaaaaac	aactatgata	aaaacagcag	1140
attttcaaat	ctaccctgac	atatatctta	ataattataa	atttaaagaa	aaggagatc	1200
aatttgcatt	taaaaaagaa	aacacatact	atattgaaat	agatcccact	aacaatttaa	1260
atgaggcttt	aaaaaatcat	gaaataatct	caaaatataa	atttgaaaaa	tatttcatta	1320
accctattct	aaaaaataaa	gaagaatttt	ttagaaaactt	aatagaagtc	aaaaatatcc	1380
acgaactagg	aattatgtat	aaaaatctaa	agcctgaatt	taagcaataa	aaaataatta	1440
aataa						1445

<210> 549

<211> 575

<212> PRT

<213> Homo sapiens

<400> 549

Met Asn Thr Lys Gly Lys Val Val Gly Val Asn Gly Asn Leu Val Thr

1	5	10	15
Ile Glu Val Glu Gly Ser Val Ser Met Asn Glu Val Leu Phe Val Lys	20	25	30
Thr Ala Gly Arg Asn Leu Lys Ala Glu Val Ile Arg Ile Arg Gly Asn	35	40	45
Glu Val Asp Ala Gln Val Phe Glu Leu Thr Lys Gly Ile Ser Val Gly	50	55	60
Asp Leu Val Glu Phe Thr Asp Lys Leu Leu Thr Val Glu Leu Gly Pro	65	70	75
Gly Leu Leu Thr Gln Val Tyr Asp Gly Leu Gln Asn Pro Leu Pro Glu	85	90	95
Leu Ala Ile Gln Cys Gly Phe Phe Leu Glu Arg Gly Val Tyr Leu Arg	100	105	110
Pro Leu Asn Lys Asp Lys Lys Trp Asn Phe Lys Lys Thr Ser Lys Val	115	120	125
Gly Asp Ile Val Ile Ala Gly Asp Phe Leu Gly Phe Val Ile Glu Gly	130	135	140
Thr Val His His Gln Ile Met Ile Pro Phe Tyr Lys Arg Asp Ser Tyr	145	150	155
Lys Ile Val Glu Ile Val Ser Asp Gly Asp Tyr Ser Ile Asp Glu Gln	165	170	175
Ile Ala Val Ile Glu Asp Asp Ser Gly Met Arg His Asn Ile Thr Met	180	185	190
Ser Phe His Trp Pro Val Lys Val Pro Ile Thr Asn Tyr Lys Glu Arg	195	200	205
Leu Ile Pro Ser Glu Pro Met Leu Thr Gln Thr Arg Ile Ile Asp Thr	210	215	220
Phe Phe Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe	225	230	235
Gly Ala Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp	245	250	255
Val Asp Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val	260	265	270
Val Glu Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly	275	280	285
Lys Ser Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met	290	295	300
Pro Val Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly	305	310	315
Glu Tyr Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser			

325 330 335

Thr Ser Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu  
340 345 350

Glu Ile Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile  
355 360 365

Ala Ser Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp  
370 375 380

Ile Gly Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn  
385 390 395 400

Phe Glu Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe  
405 410 415

His Gly Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile  
420 425 430

Ser Pro Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys  
435 440 445

Lys Thr Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn  
450 455 460

Gln Met Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe  
465 470 475 480

Leu Ile Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln  
485 490 495

Asn Ser Phe Asp Ser Ile Asp Ala Ala Val Ser Ser Glu Arg Gln Asn  
500 505 510

Tyr Met Phe Asp Ile Val Tyr Asn Ile Leu Lys Thr Asn Phe Glu Phe  
515 520 525

Ser Asp Lys Leu Gln Ala Arg Asp Phe Ile Asn Glu Leu Arg Gln Asn  
530 535 540

Leu Leu Asp Met Asn Leu Ser Ser Phe Lys Asp His Lys Phe Asn Lys  
545 550 555 560

Leu Glu His Ala Leu Gly Glu Leu Ile Asn Phe Lys Lys Val Ile  
565 570 575

<210> 550  
<211> 541  
<212> PRT  
<213> Homo sapiens

<400> 550  
Gly Arg Asn Leu Lys Ala Glu Val Ile Arg Ile Arg Gly Asn Glu Val  
1 5 10 15  
Asp Ala Gln Val Phe Glu Leu Thr Lys Gly Ile Ser Val Gly Asp Leu  
20 25 30  
Val Glu Phe Thr Asp Lys Leu Leu Thr Val Glu Leu Gly Pro Gly Leu  
408

35	40	45
Leu Thr Gln Val Tyr Asp Gly	Leu Gln Asn Pro Leu Pro Glu Leu Ala	
50	55	60
Ile Gln Cys Gly Phe Phe Leu Glu Arg Gly Val Tyr Leu Arg Pro Leu		
65	70	75 80
Asn Lys Asp Lys Lys Trp Asn Phe Lys Lys Thr Ser Lys Val Gly Asp		
	85	90 95
Ile Val Ile Ala Gly Asp Phe Leu Gly Phe Val Ile Glu Gly Thr Val		
	100	105 110
His His Gln Ile Met Ile Pro Phe Tyr Lys Arg Asp Ser Tyr Lys Ile		
	115	120 125
Val Glu Ile Val Ser Asp Gly Asp Tyr Ser Ile Asp Glu Gln Ile Ala		
	130	135 140
Val Ile Glu Asp Asp Ser Gly Met Arg His Asn Ile Thr Met Ser Phe		
	145	150 155 160
His Trp Pro Val Lys Val Pro Ile Thr Asn Tyr Lys Glu Arg Leu Ile		
	165	170 175
Pro Ser Glu Pro Met Leu Thr Gln Thr Arg Ile Ile Asp Thr Phe Phe		
	180	185 190
Pro Val Ala Lys Gly Gly Thr Phe Cys Ile Pro Gly Pro Phe Gly Ala		
	195	200 205
Gly Lys Thr Val Leu Gln Gln Val Thr Ser Arg Asn Ala Asp Val Asp		
	210	215 220
Val Val Ile Ile Ala Ala Cys Gly Glu Arg Ala Gly Glu Val Val Glu		
	225	230 235 240
Thr Leu Lys Glu Phe Pro Glu Leu Met Asp Pro Lys Thr Gly Lys Ser		
	245	250 255
Leu Met Asp Arg Thr Cys Ile Ile Cys Asn Thr Ser Ser Met Pro Val		
	260	265 270
Ala Ala Arg Glu Ala Ser Val Tyr Thr Ala Ile Thr Ile Gly Glu Tyr		
	275	280 285
Tyr Arg Gln Met Gly Leu Asp Ile Leu Leu Leu Ala Asp Ser Thr Ser		
	290	295 300
Arg Trp Ala Gln Ala Met Arg Glu Met Ser Gly Arg Leu Glu Glu Ile		
	305	310 315 320
Pro Gly Glu Glu Ala Phe Pro Ala Tyr Leu Glu Ser Val Ile Ala Ser		
	325	330 335
Phe Tyr Glu Arg Ala Gly Ile Val Val Leu Asn Asn Gly Asp Ile Gly		
	340	345 350
Ser Val Thr Val Gly Gly Ser Val Ser Pro Ala Gly Gly Asn Phe Glu		

355

360

365

Glu Pro Val Thr Gln Ala Thr Leu Lys Val Val Gly Ala Phe His Gly  
370 375 380

Leu Thr Arg Glu Arg Ser Asp Ala Arg Lys Phe Pro Ala Ile Ser Pro  
385 390 395 400

Leu Glu Ser Trp Ser Lys Tyr Lys Gly Val Ile Asp Gln Lys Lys Thr  
405 410 415

Glu Tyr Ala Arg Ser Phe Leu Val Lys Gly Asn Glu Ile Asn Gln Met  
420 425 430

Met Lys Val Val Gly Glu Glu Gly Ile Ser Asn Asp Asp Phe Leu Ile  
435 440 445

Tyr Leu Lys Ser Glu Leu Leu Asp Ser Cys Tyr Leu Gln Gln Asn Ser  
450 455 460

Phe Asp Ser Ile Asp Ala Ala Val Ser Ser Glu Arg Gln Asn Tyr Met  
465 470 475 480

Phe Asp Ile Val Tyr Asn Ile Leu Lys Thr Asn Phe Glu Phe Ser Asp  
485 490 495

Lys Leu Gln Ala Arg Asp Phe Ile Asn Glu Leu Arg Gln Asn Leu Leu  
500 505 510

Asp Met Asn Leu Ser Ser Phe Lys Asp His Lys Phe Asn Lys Leu Glu  
515 520 525

His Ala Leu Gly Glu Leu Ile Asn Phe Lys Lys Val Ile  
530 535 540

&lt;210&gt; 551

&lt;211&gt; 1728

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 551

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ggttcagttt ctatgaatga agtttttatt gtaaagactg ctggtaggaa tttaaaagca 120  
gaagtaattc gtattagggg caatgaagtt gatgcacagg tttttgaatt gacaaaaggg 180  
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 <212> DNA  
 <213> Homo sapiens

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cctgaattgg	ctattcaatg	tggattttttt	ttagaaaggg	gagtatatatt	aaggcccttg	240
aataaagata	aaaagtggaa	ttttaaaaaa	acctccaaag	ttggagatat	cgttattgca	300
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 <211> 434  
 <212> PRT  
 <213> Homo sapiens

<400> 553																			
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				20					25					30					
Ala	Lys	Asp	Thr	Ser	Ser	Leu	Ala	Glu	Val	Ile	Lys	Leu	Asp	Arg	Glu				
		35					40						45						

Lys Val Ser Leu Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser  
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Asp Glu Ile Lys Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp  
 65 70 75 80

Asn Leu Leu Gly Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly  
 85 90 95

Gly Pro Ser Leu Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala  
 100 105 110

Asn Pro Thr Lys Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu  
 115 120 125

Pro Met Ile Asp Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro  
 130 135 140

Ile Phe Ser Val Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile  
 145 150 155 160

Ala Leu Gln Ala Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu  
 165 170 175

Lys His Asp Asp Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly  
 180 185 190

Ala Leu Ser Arg Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val  
 195 200 205

Val Glu Ser Leu Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys  
 210 215 220

Phe Ala Leu Lys Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr  
 225 230 235 240

Asn Phe Ala Asp Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val  
 245 250 255

Pro Ser Asn Arg Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr  
 260 265 270

Arg Tyr Glu Lys Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile  
 275 280 285

Leu Ala Val Thr Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro  
 290 295 300

Asp Asn Thr Gly Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly  
 305 310 315 320

Arg Ile Glu Pro Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn  
 325 330 335

Ser Arg Thr Arg Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys  
 340 345 350

Leu Tyr Ala Ser Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe  
 355 360 365

Asn Met Thr Lys Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe  
 370 375 380  
 Glu Ser Lys Met Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala  
 385 390 395 400  
 Leu Asp Leu Gly Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu  
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 Thr Tyr  
  
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 <213> Homo sapiens  
  
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 Gln Val Tyr Gly Gly Thr Arg Gly Val Ser Thr Ser Asp Glu Ile Lys  
 35 40 45  
 Phe Leu Gly His Ser Met Gln Val Ser Phe Ser Asp Asn Leu Leu Gly  
 50 55 60  
 Arg Ile Phe Asp Gly Ser Gly Asn Pro Arg Asp Gly Gly Pro Ser Leu  
 65 70 75 80  
 Asp Asp Asn Leu Ile Glu Ile Gly Gly Pro Ser Ala Asn Pro Thr Lys  
 85 90 95  
 Arg Ile Val Pro Arg Asn Met Ile Arg Thr Gly Leu Pro Met Ile Asp  
 100 105 110  
 Val Phe Asn Thr Leu Val Glu Ser Gln Lys Leu Pro Ile Phe Ser Val  
 115 120 125  
 Ser Gly Glu Pro Tyr Asn Glu Leu Leu Ile Arg Ile Ala Leu Gln Ala  
 130 135 140  
 Glu Val Asp Leu Ile Ile Leu Gly Gly Met Gly Leu Lys His Asp Asp  
 145 150 155 160  
 Tyr Leu Thr Phe Lys Asp Ser Leu Glu Lys Gly Gly Ala Leu Ser Arg  
 165 170 175  
 Ala Ile Phe Phe Val His Thr Ala Asn Asp Ser Val Val Glu Ser Leu  
 180 185 190  
 Thr Val Pro Asp Ile Ser Leu Ser Val Ala Glu Lys Phe Ala Leu Lys  
 195 200 205

Gly Lys Lys Val Leu Val Leu Leu Thr Asp Met Thr Asn Phe Ala Asp  
 210 215 220  
 Ala Met Lys Glu Ile Ser Ile Thr Met Glu Gln Val Pro Ser Asn Arg  
 225 230 235 240  
 Gly Tyr Pro Gly Asp Leu Tyr Ser Gln Leu Ala Tyr Arg Tyr Glu Lys  
 245 250 255  
 Ala Ile Asp Phe Glu Gly Ala Gly Ser Ile Thr Ile Leu Ala Val Thr  
 260 265 270  
 Thr Met Pro Gly Asp Asp Val Thr His Pro Val Pro Asp Asn Thr Gly  
 275 280 285  
 Tyr Ile Thr Glu Gly Gln Tyr Tyr Leu Lys Gly Gly Arg Ile Glu Pro  
 290 295 300  
 Phe Gly Ser Leu Ser Arg Leu Lys Gln Met Val Asn Ser Arg Thr Arg  
 305 310 315 320  
 Asp Asp His Arg Thr Ile Met Asp Ser Met Ile Lys Leu Tyr Ala Ser  
 325 330 335  
 Ser Lys Glu Ser Val Glu Lys Lys Ala Met Gly Phe Asn Met Thr Lys  
 340 345 350  
 Trp Asp Glu Lys Leu Leu Lys Tyr Ser Asn Met Phe Glu Ser Lys Met  
 355 360 365  
 Met Asp Leu Ser Val Asn Ile Pro Leu Glu Glu Ala Leu Asp Leu Gly  
 370 375 380  
 Trp Ser Ile Leu Ala Ser Cys Phe Ser Pro Lys Glu Thr Gly Ile Lys  
 385 390 395 400  
 Thr Asp Leu Ile Glu Lys Tyr Trp Pro Lys Lys Glu Thr Tyr  
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<210> 555

<211> 1305

<212> DNA

<213> Homo sapiens

<400> 555

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 gaagtaatta aacttgatcg agaaaaagtt tctcttcagg tttatggtgg tacaagaggt 180  
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 aatttggtgg gcagaatttt tgatggttct gggaatccta gagatggggg cccttctctt 300  
 gatgataatt tgattgaaat tgggtgggcct tctgcaaatt ctacaaaacg cattgttcct 360  
 agaaatatga taaggacagg gcttccaatg atagatgttt ttaatactct tgttgaatct 420  
 caaaaattgc caattttttc tgtttctggg gaggccttata atgagcttct tataagaatt 480  
 gcacttcaag cagaagttga ttttaataatt cttggcgga tgggacttaa gcatgatgat 540  
 tatttaactt ttaaagattc tttagaaaag ggaggtgctt taagtagagc aatttttttt 600  
 gttcatactg ctaatgattc tgttggttgaa tctttaactg ttcctgatat ttcactttct 660  
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 aattttgctg atgcaatgaa agaaatatct attacaatgg aacaagtgcc ttctaataga 780  
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<211> 1245  
<212> DNA  
<213> Homo sapiens

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caaaaattgc caattttttc tgtttctggt gagccttata atgagcttct tataagaatt 420  
gcacttcaag cagaagttga ttttaataatt cttggcggaa tgggacttaa gcatgatgat 480  
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<210> 557  
<211> 324  
<212> PRT  
<213> Homo sapiens

<400> 557  
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20 25 30  
Lys Gly Arg Gln Phe Leu Tyr Ser Lys Ser Glu Phe Ser Lys Ser Asn  
35 40 45  
Leu Thr His Ala Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly  
50 55 60  
Val Tyr Pro Glu Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser  
65 70 75 80  
Gly Asn Ala Ile Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp  
85 90 95

Arg Tyr Tyr Leu Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser  
 100 105 110  
 Leu Ala Lys Met Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp  
 115 120 125  
 Tyr Leu Asn Asp Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr  
 130 135 140  
 Ser Tyr His Asp Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu  
 145 150 155 160  
 Leu Asn Ala Ser Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly  
 165 170 175  
 Ala Phe Gly Ile Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr  
 180 185 190  
 Asn Val Ile Asp Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu  
 195 200 205  
 Lys Ala Tyr Glu Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly  
 210 215 220  
 Ile Leu Thr Arg Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr  
 225 230 235 240  
 Gln Phe Lys Asn Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys  
 245 250 255  
 Ala Ile Lys Asn Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr  
 260 265 270  
 Asn Val Ala Ala Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe  
 275 280 285  
 Arg Ala Ile Asp Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe  
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<210> 558  
 <211> 304  
 <212> PRT  
 <213> Homo sapiens

<400> 558  
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 Ile Asn Tyr Leu Gln Glu Ala Leu Leu Arg Lys Gly Val Tyr Pro Glu  
 35 40 45

Ala Ser Tyr Tyr Leu Ser Val Ala Tyr Gly Met Ser Gly Asn Ala Ile  
50 55 60

Leu Glu Lys Leu Asn Leu Tyr Lys Ser Phe Glu Asp Arg Tyr Tyr Leu  
65 70 75 80

Leu Asp Glu Ser Phe Glu Lys Lys Ile Leu Phe Ser Leu Ala Lys Met  
85 90 95

Ala Glu Leu Glu Asn Asn Tyr Val Asp Thr Ile Asp Tyr Leu Asn Asp  
100 105 110

Ile Leu Asn Lys Phe Ser Thr Lys Lys Asp Tyr Tyr Ser Tyr His Asp  
115 120 125

Tyr Ser Gln Gly Glu Asn Ser Met Ser Asn Asn Glu Leu Asn Ala Ser  
130 135 140

Phe Tyr Leu Thr Ser Tyr Leu Lys Gln Val Arg Gly Ala Phe Gly Ile  
145 150 155 160

Asp Phe Thr Phe Asn Leu Tyr Arg Phe Lys Asn Tyr Asn Val Ile Asp  
165 170 175

Thr His Gln Leu Leu Ser Lys Val Tyr Leu His Leu Lys Ala Tyr Glu  
180 185 190

Leu Ser Ile Thr His Gly Leu Ile Ala Ala Val Gly Ile Leu Thr Arg  
195 200 205

Met Tyr Asp Tyr Val Cys Tyr Tyr Glu Pro Val Tyr Gln Phe Lys Asn  
210 215 220

Leu Arg Ser Phe Val Gln Lys Ile Asn Lys Tyr Lys Ala Ile Lys Asn  
225 230 235 240

Ala Phe Glu Ser Thr Asp Phe Trp Glu Ile Val Tyr Asn Val Ala Ala  
245 250 255

Ala Thr Tyr Ala Tyr Ser Asn Gly Asn Tyr Lys Phe Arg Ala Ile Asp  
260 265 270

Thr Trp Lys Leu Val Val Asp Leu Ala Pro Arg Phe Ser Pro Tyr Ile  
275 280 285

Ala Lys Ser Arg Ser Gln Ile Lys Asn Ser Val Tyr Leu Lys Lys Asn  
290 295 300

<210> 559

<211> 975

<212> DNA

<213> Homo sapiens

<400> 559

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aaatctgaat ttagtaagtc taatcttaca catgctatta attatttgca ggaagctttg 180  
cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tggtagtct 240  
ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 300

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ctagatgaat cttttgaaaa aaaaatactt ttttctttag ctaaaatggc tgaacttgag 360
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aaagattatt atagttatca tgattattct caaggcgaaa acagtatgtc aaataatgaa 480
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gattttactt ttaatcttta cagattttaa aactacaatg ttattgatac tcatcaatta 600
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cagtttaaaa atttaagggtc ttttggtcaa aaaattaata agtataaggc aataaaaaat 780
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 840
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 900
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975

<210> 560

<211> 915

<212> DNA

<213> Homo sapiens

<400> 560

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cttagaaaag gcgtttatcc tgaggctagt tattatttgt cagtagctta tgggtatgtct 180
ggcaatgcta ttcttgaaaa attaaacctt tataagtctt ttgaagacag atattatttg 240
ctagatgaat cttttgaaaa aaaaatactt ttttctttag ctaaaatggc tgaacttgag 300
aataattatg ttgatactat tgattatttg aatgacatat taaataagtt ttcaactaaa 360
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cttaatgctt cattttatct aacttcttat ttaaaacaag taagaggagc ttttgggtatt 480
gattttactt ttaatcttta cagattttaa aactacaatg ttattgatac tcatcaatta 540
ttgtcaaaaag tttatttgca cttaaaagct tatgagcttt caattactca tggacttata 600
gctgcagtag gaattttaac aagaatgtat gattatgttt gttattatga acctgtgtat 660
cagtttaaaa atttaagggtc ttttggtcaa aaaattaata agtataaggc aataaaaaat 720
gcttttgaat ctacagattt ttgggaaata gtttataatg ttgctgctgc tacttatgca 780
tattctaata gcaattataa atttagagca atagatactt ggaaattagt agtagatctt 840
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915

<210> 561

<211> 316

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (179)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 561

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Ser Ser Phe Ala Tyr Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu
 20             25             30

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Leu Val Ile Ile Asp Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met
 35             40             45

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Asp Leu Asn His Gly Gln Met Phe Leu Lys Lys Asn Ile Asn Val Leu
 50             55             60

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Phe Gly Thr Tyr Lys Asp Cys Ala Asn Ala Asp Ile Val Val Ile Thr

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65		70		75		80
Ala Gly Leu Asn Gln Lys Pro Gly Glu Thr Arg Leu Asp Leu Val Asp						
	85		90		95	
Lys Asn Ser Lys Ile Phe Lys Asp Ile Ile Thr Asn Val Val Ser Ser						
	100		105		110	
Gly Phe Asp Gly Ile Phe Val Val Ala Ser Asn Pro Val Asp Ile Met						
	115		120		125	
Thr Tyr Val Thr Met Lys Tyr Ser Lys Phe Pro Ile His Lys Val Ile						
	130		135		140	
Gly Thr Gly Thr Ile Leu Asp Thr Ser Arg Leu Arg Tyr Phe Leu Ser						
	145		150		155	160
Asp His Phe Asn Val Asn Thr Gln Asn Ile His Ser Tyr Ile Met Gly						
	165		170		175	
Glu His Xaa Asp Ser Ser Phe Ala Thr Trp Asp Glu Thr Lys Ile Ala						
	180		185		190	
Met Lys Pro Leu Ser Glu Tyr Leu Ala Glu Gly Lys Ile Thr Glu Leu						
	195		200		205	
Glu Leu Asp Glu Ile His Lys Lys Val Val Asn Ala Ala Tyr Glu Val						
	210		215		220	
Ile Lys Leu Lys Gly Ala Thr Tyr Tyr Ala Ile Gly Leu Gly Ile Lys						
	225		230		235	240
Asn Ile Val Asn Ala Ile Ile Gly Asp Gln Asn Val Ile Leu Pro Ile						
	245		250		255	
Ser Ser Tyr Ile Asn Gly Gln Tyr Gly Gly Leu Ile Lys Asp Ile Tyr						
	260		265		270	
Ile Gly Ala Pro Ala Ile Val Cys Lys Glu Gly Val Lys Glu Val Leu						
	275		280		285	
Asn Phe Lys Ile Ser Pro Lys Glu Leu Asp Lys Phe Asn Ser Ser Ala						
	290		295		300	
Asn Gln Leu Lys Ser Tyr Ile Asp Lys Met Glu Phe						
	305		310		315	

<210> 562

<211> 295

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (158)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 562

Ala Leu Thr Ile Asp Asn Ser Leu Val His Glu Leu Val Ile Ile Asp
1 5 10 15

Val Asn Glu Asn Lys Ala Lys Gly Glu Val Met Asp Leu Asn His Gly  
                     20                    25                    30  
 Gln Met Phe Leu Lys Lys Asn Ile Asn Val Leu Phe Gly Thr Tyr Lys  
                     35                    40                    45  
 Asp Cys Ala Asn Ala Asp Ile Val Val Ile Thr Ala Gly Leu Asn Gln  
                     50                    55                    60  
 Lys Pro Gly Glu Thr Arg Leu Asp Leu Val Asp Lys Asn Ser Lys Ile  
                     65                    70                    75                    80  
 Phe Lys Asp Ile Ile Thr Asn Val Val Ser Ser Gly Phe Asp Gly Ile  
                     85                    90                    95  
 Phe Val Val Ala Ser Asn Pro Val Asp Ile Met Thr Tyr Val Thr Met  
                     100                    105                    110  
 Lys Tyr Ser Lys Phe Pro Ile His Lys Val Ile Gly Thr Gly Thr Ile  
                     115                    120                    125  
 Leu Asp Thr Ser Arg Leu Arg Tyr Phe Leu Ser Asp His Phe Asn Val  
                     130                    135                    140  
 Asn Thr Gln Asn Ile His Ser Tyr Ile Met Gly Glu His Xaa Asp Ser  
                     145                    150                    155                    160  
 Ser Phe Ala Thr Trp Asp Glu Thr Lys Ile Ala Met Lys Pro Leu Ser  
                     165                    170                    175  
 Glu Tyr Leu Ala Glu Gly Lys Ile Thr Glu Leu Glu Leu Asp Glu Ile  
                     180                    185                    190  
 His Lys Lys Val Val Asn Ala Ala Tyr Glu Val Ile Lys Leu Lys Gly  
                     195                    200                    205  
 Ala Thr Tyr Tyr Ala Ile Gly Leu Gly Ile Lys Asn Ile Val Asn Ala  
                     210                    215                    220  
 Ile Ile Gly Asp Gln Asn Val Ile Leu Pro Ile Ser Ser Tyr Ile Asn  
                     225                    230                    235                    240  
 Gly Gln Tyr Gly Gly Leu Ile Lys Asp Ile Tyr Ile Gly Ala Pro Ala  
                     245                    250                    255  
 Ile Val Cys Lys Glu Gly Val Lys Glu Val Leu Asn Phe Lys Ile Ser  
                     260                    265                    270  
 Pro Lys Glu Leu Asp Lys Phe Asn Ser Ser Ala Asn Gln Leu Lys Ser  
                     275                    280                    285  
 Tyr Ile Asp Lys Met Glu Phe  
                     290                    295

<210> 563  
 <211> 950  
 <212> DNA  
 <213> Homo sapiens

<400> 563  
atgcttaagt ctaataaagt tgttcttatt ggagctgggtg gggttgggtc aagctttgcg 60  
tatgctttta caatagacaa ttcacttgta catgaacttg taattattga tgttaatgaa 120  
aataaagcaa aaggggaggt catggacctt aatcatggcc aaatgttttt aaagaagaat 180  
attaatgtat tgtttgggac ttacaaagat tgtgctaata cagatattgt tgtaattaca 240  
gcaggactta atcaaaagcc tgggtgagaca agacttgatt tggttgataa aaattctaaa 300  
atTTTTaaag atattataac taatgttgta tctagcgggt ttgatgggat ttttgttggt 360  
gcaagcaatc ctgtagacat tatgacttat gttacaatga aatattccaa atttcctatt 420  
cataagggtta ttggtactgg gactattcct gatacttcaa gacttagata ttttttaagt 480  
gatcatttta atgtgaacac tcaaaatata cattcatata ttatgggtga gcacgtgaca 540  
gttcttttgc tacgtgggat gaaacaaaaa tagcaatgaa gcctttgtca gaatatcttg 600  
ctgaaggcaa aataactgag ttggagcttg atgaaattca taaaaagggt gtgaatgctg 660  
cttatgaagt tattaagtta aagggggcaa cctattatgc tattggactt ggtattaaga 720  
atattgtaaa tgcaataatt ggagatcaga atgttattct gccaatatct tcttatatta 780  
atggccagta tgggggattg attaaagata tttatatttg agcgctgct atagtttgta 840  
aggaaggagt caaagaagtt ttaaacttta agataagccc taaagagctt gataagttta 900  
atagttctgc taatcagctt aaaagctata ttgataaaat ggaattttag 950

<210> 564  
<211> 887  
<212> DNA  
<213> Homo sapiens

<400> 564  
gctttaacaa tagacaattc acttgtagat gaacttgtaa ttattgatgt taatgaaaat 60  
aaagcaaaaag gggaggtcat ggaccttaat catggccaaa tgTTTTtaaa gaagaatatt 120  
aatgtattgt ttgggactta caaagattgt gctaattgcag atattgttgt aattacagca 180  
ggacttaatc aaaagccttg tgagacaaga cttgatttgg ttgataaaaa ttctaaaatt 240  
tttaaagata ttataactaa tgttgtagct agcgggtttg atgggtatatt tgttggtgca 300  
agcaatcctg tagacattat gacttatgtt acaatgaaat attccaaatt tcctattcat 360  
aaggttattg gtactgggac tattcttgat acttcaagac ttagatattt tttaagtgat 420  
cattttaatg tgaacactca aaatatacat tcatatatta tgggtgagca cgtgacagtt 480  
cttttgctac gtgggatgaa acaaaaatag caatgaagcc tttgtcagaa tatcttgctg 540  
aaggcaaaaat aactgagttg gagcttgatg aaattcataa aaagggttggt aatgctgctt 600  
atgaagttat taagttaaag ggggcaacct attatgctat tggacttggt attaagaata 660  
ttgtaaatgc aataattgga gatcagaatg ttattctgcc aatatcttct tatattaatg 720  
gccagtatgg gggattgatt aaagatatatt atattggagc gcctgctata gtttgtaagg 780  
aaggagtcaa agaagtttta aactttaaga taagccctaa agagcttgat aagtttaata 840  
gttctgctaa tcagcttaaa agctatatatt ataaaatgga atttttag 887

<210> 565  
<211> 342  
<212> PRT  
<213> Homo sapiens

<400> 565  
Met Lys Lys Lys Gln Leu Ile Leu Leu Leu Phe Met Pro Gln Ile Ile  
1 5 10 15  
Tyr Ala Lys Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln  
20 25 30  
Lys Leu Asn Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser  
35 40 45  
Val Asp Asp Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile  
50 55 60  
Lys Tyr Lys Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys  
65 70 75 80

Tyr Asp Thr Lys Asp Thr Lys Arg Lys Glu Glu Ile Tyr Asp Asn Leu  
                                     85                                    90                                    95  
 Asn Asn Lys Ile Gln Glu Ile Glu Tyr Asp Ser Lys Gly Lys Thr Leu  
                                     100                                    105                                    110  
 Glu Thr Ala Asn Tyr Val Tyr Glu Asn Glu Asn Leu Ile Ser Lys Asn  
                                     115                                    120                                    125  
 Leu Lys Thr Ile Asn Gln Lys Pro Lys Leu Ile Tyr Tyr Ser Lys Asp  
                                     130                                    135                                    140  
 Asp Asn Gly Lys Leu Leu Lys Ile Thr Gly Ser Asn Phe Gln Ile Trp  
                                     145                                    150                                    155                                    160  
 Asn Tyr Gly Ile Asn Gly Asp Ile Lys Ser Thr Tyr Phe Asp Ile Lys  
                                     165                                    170                                    175  
 Lys Ala Thr Thr Lys Val Ile Lys Tyr Asp Asp Lys Lys Arg Asn Ser  
                                     180                                    185                                    190  
 Asn Ser Thr Ile Ile Val Asn Asn Lys Ile Lys Ser Lys Glu Lys Asn  
                                     195                                    200                                    205  
 Gln Tyr Leu Asp Glu Glu Lys Ile Val Asn Thr Phe Glu Glu Glu Asn  
                                     210                                    215                                    220  
 Thr Lys Ile Ile Ser Thr Tyr Lys Ala Asn Asn Leu Ile Lys Glu Glu  
                                     225                                    230                                    235                                    240  
 Thr Tyr Lys Asn Asn Glu Leu Ile Lys Val Asn Asp Phe Gln Tyr Asn  
                                     245                                    250                                    255  
 Glu Ser Asp Met Ile Ile Phe Gln Asn Thr Lys Glu Lys Asp Lys Asp  
                                     260                                    265                                    270  
 Gln Tyr Thr Asn Thr Lys Ile Glu Tyr Glu Tyr Asn Lys Asp Asn Gln  
                                     275                                    280                                    285  
 Leu Lys Ser Lys Lys Ile Tyr Glu Asn Asp Ile Ile Tyr Leu Lys Thr  
                                     290                                    295                                    300  
 Glu Tyr His Asn Asp Asn Glu Tyr Glu Glu Glu Ile Tyr Tyr Asn Lys  
                                     305                                    310                                    315                                    320  
 Lys Pro Ala Leu Arg Val Lys His Lys Asn Gly Lys Val Thr Glu Glu  
                                     325                                    330                                    335  
 Lys Pro Ile Gly Thr Asn  
                                     340

<210> 566

<211> 323

<212> PRT

<213> Homo sapiens

<400> 566

Ser Tyr Phe Ala Ser Asp Val Phe Phe Asn Lys Tyr Gln Lys Leu Asn  
     1                                    5                                    10                                    15

Glu Lys Pro Lys Thr Gly Phe Tyr Ile Glu Tyr Tyr Ser Val Asp Asp  
                     20                    25                    30  
 Thr Glu Lys Leu Tyr Leu Tyr Lys Glu Asn Asn Leu Ile Lys Tyr Lys  
                     35                    40                    45  
 Thr Ile Gln Ile Ile Glu Asn Thr Lys Lys Ile Thr Cys Tyr Asp Thr  
                     50                    55                    60  
 Lys Asp Thr Lys Arg Lys Glu Glu Ile Tyr Asp Asn Leu Asn Asn Lys  
                     65                    70                    75                    80  
 Ile Gln Glu Ile Glu Tyr Asp Ser Lys Gly Lys Thr Leu Glu Thr Ala  
                     85                    90                    95  
 Asn Tyr Val Tyr Glu Asn Glu Asn Leu Ile Ser Lys Asn Leu Lys Thr  
                     100                    105                    110  
 Ile Asn Gln Lys Pro Lys Leu Ile Tyr Tyr Ser Lys Asp Asp Asn Gly  
                     115                    120                    125  
 Lys Leu Leu Lys Ile Thr Gly Ser Asn Phe Gln Ile Trp Asn Tyr Gly  
                     130                    135                    140  
 Ile Asn Gly Asp Ile Lys Ser Thr Tyr Phe Asp Ile Lys Lys Ala Thr  
                     145                    150                    155                    160  
 Thr Lys Val Ile Lys Tyr Asp Asp Lys Lys Arg Asn Ser Asn Ser Thr  
                     165                    170                    175  
 Ile Ile Val Asn Asn Lys Ile Lys Ser Lys Glu Lys Asn Gln Tyr Leu  
                     180                    185                    190  
 Asp Glu Glu Lys Ile Val Asn Thr Phe Glu Glu Glu Asn Thr Lys Ile  
                     195                    200                    205  
 Ile Ser Thr Tyr Lys Ala Asn Asn Leu Ile Lys Glu Glu Thr Tyr Lys  
                     210                    215                    220  
 Asn Asn Glu Leu Ile Lys Val Asn Asp Phe Gln Tyr Asn Glu Ser Asp  
                     225                    230                    235                    240  
 Met Ile Ile Phe Gln Asn Thr Lys Glu Lys Asp Lys Asp Gln Tyr Thr  
                     245                    250                    255  
 Asn Thr Lys Ile Glu Tyr Glu Tyr Asn Lys Asp Asn Gln Leu Lys Ser  
                     260                    265                    270  
 Lys Lys Ile Tyr Glu Asn Asp Ile Ile Tyr Leu Lys Thr Glu Tyr His  
                     275                    280                    285  
 Asn Asp Asn Glu Tyr Glu Glu Glu Ile Tyr Tyr Asn Lys Lys Pro Ala  
                     290                    295                    300  
 Leu Arg Val Lys His Lys Asn Gly Lys Val Thr Glu Glu Lys Pro Ile  
                     305                    310                    315                    320  
 Gly Thr Asn

<210> 567  
 <211> 1029  
 <212> DNA  
 <213> Homo sapiens

<400> 567  
 atgaaaaaaa aacaattaat acttcttcta tttatgccac aaattattta tgcaaaaagc 60  
 tattttgcat ctgatgtatt tttcaataaa taccaaaaat taaatgaaaa accaaaaacg 120  
 ggggttttata ttgagtatta ttctgttgat gatactgaaa aactctacct atacaaagaa 180  
 aataacttaa taaaatacaa aacaattcaa atcatagaaa acacaaaaaa aattacatgt 240  
 tatgatacaa aagatacaaa aagaaaagaa gagatttacg ataattttaa taacaaaata 300  
 caagaaattg aatatgatag caaaggaaaa actcttgaaa cagcaaatta cgtttatgaa 360  
 aacgaaaact taatatctaa aaatttataa acaataaacc aaaaaccaa attaatatat 420  
 tattctaaag acgacaatgg taaattacta aaaataacag gatcaaattt ccaaatattg 480  
 aactatggaa ttaatggcga cataaaatct acatattttg acatcaaaaa agcaacaaca 540  
 aaagttataa aatatgatga taaaaaaaga aattcaaaca gtacaataat tgtaataaat 600  
 aaaataaaat ccaaagaaaa aaaccaatat ttagatgaag aaaaaatagt aaataccttt 660  
 gaagaagaga atacaaaaat catatctacc tacaaggcaa acaacctaat taaagaagaa 720  
 acatataaaa ataatgaact tataaaagta aatgattttc aatacaacga atctgatatg 780  
 ataatttttc aaaacactaa agaaaaggat aaagaccaat acaccaatac taaaattgaa 840  
 tacgaatata acaagacaa tcaattaaaa agcaaaaaaa tttatgagaa cgatataatt 900  
 tatctaaaaa ctgaatacca caatgacaat gaatatgaag aagaaatata ctacaataaa 960  
 aaacctgctc ttagggtaaa acacaagaac ggaaaagtca ccgaagaaaa accaatagga 1020  
 acaaattaa 1029

<210> 568  
 <211> 972  
 <212> DNA  
 <213> Homo sapiens

<400> 568  
 agctattttg catctgatgt atttttcaat aaataccaaa aattaaatga aaaacaaaaa 60  
 acgggggttt atattgagta ttattctgtt gatgatactg aaaaactcta cctatacaaa 120  
 gaaaataact taataaaata caaaacaatt caaatcatag aaaacacaaa aaaaattaca 180  
 tgttatgata caaaagatac aaaaagaaaa gaagagattt acgataattt aaataacaaa 240  
 atacaagaaa ttgaatatga tagcaaagga aaaactcttg aaacagcaaa ttacgtttat 300  
 gaaaacgaaa acttaatatc taaaaattta aaacaataa accaaaaacc aaaattaata 360  
 tattatttcta aagacgacaa tggtaaatga ctaaaaataa caggatcaaa tttccaaatt 420  
 tggaactatg gaattaatgg cgacataaaa tctacatatt ttgacatcaa aaaagcaaca 480  
 acaaaagtta taaaatatga tgataaaaaa agaaattcaa acagtacaat aattgttaat 540  
 aataaaataa aatccaaaaga aaaaaccaa tatttagatg aagaaaaaat agtaaatacc 600  
 tttgaagaag agaatacaaa aatcatatct acctacaagg caaacaacct aattaaagaa 660  
 gaaacatata aaaataatga acttataaaa gttaatgatt ttcaatacaa cgaatctgat 720  
 atgataattt ttcaaaacac taaagaaaag gataaagacc aatacaccaa tactaaaatt 780  
 gaatacgaat ataacaaga caatcaatta aaaagcaaaa aaatttatga gaacgatata 840  
 atttatctaa aaactgaata ccacaatgac aatgaatatg aagaagaaat atactacaat 900  
 aaaaaacctg ctcttagggg aaaaacacaag aacggaaaag tcaccgaaga aaaaccaata 960  
 ggaacaaatt aa 972

<210> 569  
 <211> 469  
 <212> PRT  
 <213> Homo sapiens

<400> 569  
 Met Glu Lys Leu Lys Leu Lys Leu Ala Ile Pro Leu Leu Val Phe Thr  
 1 5 10 15  
 Ile Cys Lys Ile His Ser Gln Ser Asn Ile Glu Tyr Asn Phe Ser Tyr

20

25

30

Ile Ile Asn Thr Lys Lys Glu Asn Ile Asp Leu Lys Lys Gly Ile Glu  
 35 40 45  
 Lys Gln Leu Asp Lys Ile Tyr Asp Lys Ile Thr Glu His Ile Val Asn  
 50 55 60  
 Asn Asp Asp Lys Ser Ile Ile Glu Asp Ile Tyr Ile Asn Gln Asp Ile  
 65 70 75 80  
 Ile Lys Thr Glu Leu Glu Ile Ser Lys Leu Lys Lys Glu Met Asp Lys  
 85 90 95  
 Lys Lys Leu Gln Asn Ile Ile Thr Ala Lys Glu Lys His Asn Thr Lys  
 100 105 110  
 Thr Lys Ile Asp Glu Leu Lys Lys Asn Ile Gln Asn Ile Asn Asn Lys  
 115 120 125  
 Gln Lys Lys Phe Ala Glu Tyr Phe Asn Asn Leu Lys Lys Leu Lys Val  
 130 135 140  
 Lys Tyr Lys Lys Ile Glu Glu Gln Thr Asn Ile Ser Asn Leu Asn Lys  
 145 150 155 160  
 Glu Phe Phe Ile Arg Glu Glu Leu Phe Phe Ile Asn Tyr Ile Asp Leu  
 165 170 175  
 Lys Lys Ile Glu Asn Tyr Tyr Leu Leu Glu Ile Ser Asn Ile Thr Pro  
 180 185 190  
 Glu Lys Ile Glu Thr Lys Lys Ala Val Phe Lys Thr Ser Ser Ser Val  
 195 200 205  
 Asn Glu Ile Ala Asp His Ile Thr Lys Tyr Ser Leu Lys Glu Ile Leu  
 210 215 220  
 Gly Arg Glu Phe Leu Lys Ile Asn Ile Asn Val Lys Asn Asn Ser Asp  
 225 230 235 240  
 Ala Lys Ile Tyr Ile Asn Glu Lys Phe Val Ser Lys Gly Ile Tyr His  
 245 250 255  
 Asp Asn Ile Phe Asp Ile Ser Lys Leu Pro Asn Lys Glu Ile Glu Ile  
 260 265 270  
 Gln Ile Thr Ser Ala Asn Phe Glu Asn Tyr Ser Ile Lys Arg Thr Val  
 275 280 285  
 Lys Asn Ala Asp Ser Ile Ile Leu Asp Ile Asp Leu Lys Arg Thr Ile  
 290 295 300  
 Ser Lys Lys Val Ser Ile Lys Ser Asn Val Gln Ser Lys Val Phe Lys  
 305 310 315 320  
 Lys Gly Ile Phe Met Gly Glu Thr Pro Ile Glu Ile Glu Lys Pro Glu  
 325 330 335  
 Asn Gln Asp Ile Ile Leu Leu Lys Ser Lys Gly Tyr Lys Asp Lys Phe

340                      345                      350  
 Lys Leu Ile Asn Lys Glu Glu Asp Gln Val Glu Ile Glu Met Ile Lys  
                     355                      360                      365  
 Thr Asn Lys Asn Arg Leu Ile Asp Thr Arg Asp Lys Phe Tyr Val Asn  
                     370                      375                      380  
 Leu Ala Val Phe Thr Leu Ser Thr Ile Gly Ala Ile Phe Ala Gly Thr  
 385                      390                      395                      400  
 Leu Leu Asn Asn Ser Glu Val Leu Tyr Lys Ile Thr Gly Asn His Phe  
                     405                      410                      415  
 Ile Asn Lys Arg Leu Thr Ala Glu Asp Val Tyr Met Ala Lys Ala Glu  
                     420                      425                      430  
 Gln Met Thr Ala Thr Phe Leu Phe Gly Val Gly Ile Thr Leu Thr Ile  
                     435                      440                      445  
 Gly Ser Phe Ile Ser Leu Ile Thr His Leu Val Glu Tyr Ile Lys Glu  
                     450                      455                      460  
 Ala Asn Met Gly Glu  
 465  
 <210> 570  
 <211> 446  
 <212> PRT  
 <213> Homo sapiens  
 <400> 570  
 Ser Asn Ile Glu Tyr Asn Phe Ser Tyr Ile Ile Asn Thr Lys Lys Glu  
                     1                      5                      10                      15  
 Asn Ile Asp Leu Lys Lys Gly Ile Glu Lys Gln Leu Asp Lys Ile Tyr  
                     20                      25                      30  
 Asp Lys Ile Thr Glu His Ile Val Asn Asn Asp Asp Lys Ser Ile Ile  
                     35                      40                      45  
 Glu Asp Ile Tyr Ile Asn Gln Asp Ile Ile Lys Thr Glu Leu Glu Ile  
                     50                      55                      60  
 Ser Lys Leu Lys Lys Glu Met Asp Lys Lys Lys Leu Gln Asn Ile Ile  
                     65                      70                      75                      80  
 Thr Ala Lys Glu Lys His Asn Thr Lys Thr Lys Ile Asp Glu Leu Lys  
                     85                      90                      95  
 Lys Asn Ile Gln Asn Ile Asn Asn Lys Gln Lys Lys Phe Ala Glu Tyr  
                     100                      105                      110  
 Phe Asn Asn Leu Lys Lys Leu Lys Val Lys Tyr Lys Lys Ile Glu Glu  
                     115                      120                      125  
 Gln Thr Asn Ile Ser Asn Leu Asn Lys Glu Phe Phe Ile Arg Glu Glu  
                     130                      135                      140  
 Leu Phe Phe Ile Asn Tyr Ile Asp Leu Lys Lys Ile Glu Asn Tyr Tyr



145		150		155		160									
Leu	Leu	Glu	Ile	Ser	Asn	Ile	Thr	Pro	Glu	Lys	Ile	Glu	Thr	Lys	Lys
				165					170					175	
Ala	Val	Phe	Lys	Thr	Ser	Ser	Ser	Val	Asn	Glu	Ile	Ala	Asp	His	Ile
			180					185					190		
Thr	Lys	Tyr	Ser	Leu	Lys	Glu	Ile	Leu	Gly	Arg	Glu	Phe	Leu	Lys	Ile
		195					200					205			
Asn	Ile	Asn	Val	Lys	Asn	Asn	Ser	Asp	Ala	Lys	Ile	Tyr	Ile	Asn	Glu
	210					215					220				
Lys	Phe	Val	Ser	Lys	Gly	Ile	Tyr	His	Asp	Asn	Ile	Phe	Asp	Ile	Ser
225					230					235					240
Lys	Leu	Pro	Asn	Lys	Glu	Ile	Glu	Ile	Gln	Ile	Thr	Ser	Ala	Asn	Phe
				245					250					255	
Glu	Asn	Tyr	Ser	Ile	Lys	Arg	Thr	Val	Lys	Asn	Ala	Asp	Ser	Ile	Ile
			260					265					270		
Leu	Asp	Ile	Asp	Leu	Lys	Arg	Thr	Ile	Ser	Lys	Lys	Val	Ser	Ile	Lys
	275						280					285			
Ser	Asn	Val	Gln	Ser	Lys	Val	Phe	Lys	Lys	Gly	Ile	Phe	Met	Gly	Glu
	290					295					300				
Thr	Pro	Ile	Glu	Ile	Glu	Lys	Pro	Glu	Asn	Gln	Asp	Ile	Ile	Leu	Leu
305					310					315					320
Lys	Ser	Lys	Gly	Tyr	Lys	Asp	Lys	Phe	Lys	Leu	Ile	Asn	Lys	Glu	Glu
				325					330					335	
Asp	Gln	Val	Glu	Ile	Glu	Met	Ile	Lys	Thr	Asn	Lys	Asn	Arg	Leu	Ile
			340					345					350		
Asp	Thr	Arg	Asp	Lys	Phe	Tyr	Val	Asn	Leu	Ala	Val	Phe	Thr	Leu	Ser
		355					360					365			
Thr	Ile	Gly	Ala	Ile	Phe	Ala	Gly	Thr	Leu	Leu	Asn	Asn	Ser	Glu	Val
	370					375					380				
Leu	Tyr	Lys	Ile	Thr	Gly	Asn	His	Phe	Ile	Asn	Lys	Arg	Leu	Thr	Ala
385					390					395					400
Glu	Asp	Val	Tyr	Met	Ala	Lys	Ala	Glu	Gln	Met	Thr	Ala	Thr	Phe	Leu
				405					410					415	
Phe	Gly	Val	Gly	Ile	Thr	Leu	Thr	Ile	Gly	Ser	Phe	Ile	Ser	Leu	Ile
			420					425					430		
Thr	His	Leu	Val	Glu	Tyr	Ile	Lys	Glu	Ala	Asn	Met	Gly	Glu		
		435					440					445			

<210> 571  
 <211> 1410  
 <212> DNA  
 <213> Homo sapiens

<400> 571

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atggaaaagc ttaaactaaa gctagcaata ccattgctag tatttacaat atgcaaaaata 60
cattctcaaa gtaatatattga atacaattttt tcttatatca ttaatacaaa aaaagaaaat 120
attgacctaa aaaagggtat tgaaaaacaa ttggacaaaa tctatgataa aataacagaa 180
catatagtaa acaatgatga caagagcatc attgaagaca tttatataaa tcaagatata 240
ataaaaaacag aacttgaaat tagcaaatta aaaaaagaaa tggataaaaa aaaacttcaa 300
aacataataa ccgcaaaaga aaagcataac accaaaacca aaattgatga gcttaaaaaa 360
aatattcaaa atatttaacaa taaacaaaaa aaatttgcag aatattttta caatttataa 420
aaactaaaag taaaatataa aaaaatcgaa gagcaaacaa atatatcaaa tttaaataaa 480
gaatttttta taagagaaga attattttttt attaactata ttgatcttaa aaaaatagaa 540
aattattatt tgctagaaat tagcaacatc actcctgaga aaattgagac taaaaaagcg 600
gtatttataaa catcatcttc tgttaatgaa attgcagatc acataacaaa atacagcctc 660
aaagaaatat tgggcagaga atttttataaa atcaacatta acgtcaaaaa taactcggat 720
gcaaaaatct acataaatga aaaatttgtt tcaaaaggaa tctatcacga taatattttt 780
gacattttct aactcccaaa caaagaaatt gaaatacaaa tcacaagtgc aaatttcgaa 840
aactatttct ttaaaagaac ggtaaaaaat gcagactcaa taatattaga tattgactta 900
aaaagaacaa tctctaaaaa agtatcaatt aaaagcaatg tacaatctaa agttttttaa 960
aaaggaatat ttatgggaga aaccccaatt gaaattgaaa aaccagaaaa tcaagatatc 1020
atcttgctta aatctaaagg atataaagat aaattcaagt taataaataa agaagaagat 1080
caagtagaaa tagaatgat aaaaactaac aaaaatagac ttatcgacac aagagataaa 1140
ttttatgtca atctggccgt ctttacatta agcacaatag gagccatttt tgcaggaaca 1200
ttgcttaaca attcagaagt actttataaa ataacaggca atcactttat taacaaaaga 1260
ttaacagcag aagatgttta tatggcaaaa gcggaacaaa tgactgcaac atttctattt 1320
ggagtaggaa tcactttaac tattggaagc tttatctcat taataactca tttagtagaa 1380
tatattaaag aagcaaatat gggagaatag                                     1410
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<210> 572

<211> 1341

<212> DNA

<213> Homo sapiens

<400> 572

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aaaaagggtg ttgaaaaaca attggacaaa atctatgata aaataacaga acatatagta 120
aacaatgatg acaagagcat cattgaagac atttatataa atcaagatat aataaaaaaca 180
gaacttgaaa ttagcaaat aaaaaagaaa atggataaaa aaaaacttca aaacataata 240
accgcaaaag aaaagcataa caccaaaacc aaaattgatg agcttaaaaa aaatattcaa 300
aatattaaca ataaacaaaa aaaatttgca gaatatttta acaattttaa aaaactaaaa 360
gtaaaatata aaaaaatcga agagcaaaaca aatatatcaa atttaaataa agaatttttt 420
ataagagaag aattattttt tattaactat attgatctta aaaaaataga aaattattat 480
ttgctagaaa ttagcaacat cactcctgag aaaattgaga ctaaaaaagc ggtattttaa 540
acatcatctt ctgttaatga aattgcagat cacataacaa aatacagcct caaagaaata 600
ttgggcagag aattttttaa aatcaacatt aacgtcaaaa ataactcgga tgcaaaaatc 660
tacataaatg aaaaatttgt ttcaaaaggga atctatcacg ataatatatt tgacatttct 720
aaactcccaa acaaagaaat tgaaatacaa atcacaagtg caaatttcga aaactattct 780
attaaaagaa cggtaaaaaa tgcagactca ataattattg atattgactt aaaaagaaca 840
atctctaaaa aagtatcaat taaaagcaat gtacaatcta aagtttttaa aaaaggaata 900
tttatgggag aaacccaat tgaaattgaa aaaccagaaa atcaagatat catcttgctt 960
aatctaaag gatataaaga taaattcaag ttaataaata aagaagaaga tcaagtagaa 1020
atagaaatga taaaaactaa caaaaataga cttatcgaca caagagataa attttatgtc 1080
aatctggccg tctttacatt aagcacataa ggagccattt ttgcaggaac attgcttaac 1140
aattcagaag tactttataa aataacaggc aatcacttta ttaacaaaag attaacagca 1200
gaagatgttt atatggcaaa agcggaaaca atgactgcaa catttctatt tggagtagga 1260
atcactttta ctattggaag ctttatctca ttaataactc atttagtaga atatatttaa 1320
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<210> 573

<211> 490

<212> PRT

<213> Homo sapiens

<400> 573

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20 25 30  
Phe Glu Asn Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser  
35 40 45  
Leu Gly Tyr Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu  
50 55 60  
Asp Phe Pro Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu  
65 70 75 80  
Asn Asn Leu Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn  
85 90 95  
Leu Phe Asn Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe  
100 105 110  
Lys Ser Ile Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala  
115 120 125  
Asp Ile His Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser  
130 135 140  
Ile Ile Phe Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr  
145 150 155 160  
Asn Ser Ile Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe  
165 170 175  
Met Ile Ser Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser  
180 185 190  
Tyr Leu Leu Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys  
195 200 205  
Ile Tyr Leu Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys  
210 215 220  
His Leu Leu Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile  
225 230 235 240  
Thr Thr Phe Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val  
245 250 255  
Ala Ile Pro Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr  
260 265 270  
Glu Ser Asn Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu  
275 280 285  
Lys Lys Ile Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His  
290 295 300

Leu Leu Leu Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr  
 305 310 315 320

Met Leu Asn Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu  
 325 330 335

Asn Tyr Phe Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly  
 340 345 350

Tyr Asn Lys Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu  
 355 360 365

Tyr Gln Asn Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile  
 370 375 380

Pro Lys Asp Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile  
 385 390 395 400

Glu Ile His Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp  
 405 410 415

Glu Ile Leu Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn  
 420 425 430

Pro Ile Leu Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys  
 435 440 445

Lys Asn Tyr Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu  
 450 455 460

Leu Phe Leu Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn  
 465 470 475 480

Glu Lys Thr Tyr Lys Lys Tyr Ile Gln Gly  
 485 490

<210> 574

<211> 471

<212> PRT

<213> Homo sapiens

<400> 574

Cys Asp Ala Ala Gln Phe Gly Asp Tyr Lys Pro Leu Tyr Phe Glu Asn  
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Glu Asn Asp Leu Lys Thr Ala Asn Glu Tyr Ile Asn Ser Leu Gly Tyr  
 20 25 30

Lys Thr Ile Ser Glu Tyr Thr Thr Lys Ile Asp Ile Leu Asp Phe Pro  
 35 40 45

Glu Asn Lys Glu Ile Thr Ile Asn Glu Ile Asn Lys Leu Asn Asn Leu  
 50 55 60

Asp Leu Arg Lys Ser Ile Phe Leu Lys Lys Leu Ser Asn Leu Phe Asn  
 65 70 75 80

Ile Glu His Lys Lys Leu Leu Tyr Val Glu Asn Arg Phe Lys Ser Ile  
 85 90 95

Asn Phe Lys Asn Leu Lys Lys Glu Leu Asn Ile Asn Ala Asp Ile His  
 100 105 110  
 Ser Leu Asp Tyr Lys Thr Lys Ile Asn Phe Ile Ser Ser Ile Ile Phe  
 115 120 125  
 Leu Ile Ile Ile Ile Leu Leu Ile Phe Leu Asp Pro Thr Asn Ser Ile  
 130 135 140  
 Phe Thr Leu Ile Phe Leu Leu Ile Ser Ser Leu Ala Phe Met Ile Ser  
 145 150 155 160  
 Lys Glu Ile Met Tyr Phe Tyr Pro Phe Thr Val Leu Ser Tyr Leu Leu  
 165 170 175  
 Phe Leu Ile Ile Ser Asn Phe Asn Lys Asn Tyr Asn Lys Ile Tyr Leu  
 180 185 190  
 Lys Glu Ile Asn Phe Leu Thr Leu Met Thr Lys Ile Lys His Leu Leu  
 195 200 205  
 Phe Leu Phe Thr Phe Thr Ala Leu Tyr Phe Ile Thr Ile Thr Thr Phe  
 210 215 220  
 Phe Thr Thr Asn Ile Asp Pro Thr Phe Ile Ala Phe Val Ala Ile Pro  
 225 230 235 240  
 Thr Leu Cys Ile Phe Leu Ile Phe Ser Trp Ile Lys Thr Glu Ser Asn  
 245 250 255  
 Phe Lys Asp Thr Phe Leu Phe Pro Ile Glu Ile Lys Glu Lys Lys Ile  
 260 265 270  
 Glu Gly Lys Lys Ala Leu Lys Ser Lys Ile Ala Ile His Leu Leu Leu  
 275 280 285  
 Phe Thr Leu Ser Leu Ile Pro Phe Ala Tyr Ser Ser Tyr Met Leu Asn  
 290 295 300  
 Ser Tyr Glu Asn Ile Asn Tyr Leu Tyr Ser Lys Lys Leu Asn Tyr Phe  
 305 310 315 320  
 Asp Tyr Leu Asn Pro Asn Asn Ile Tyr Ile Met Leu Gly Tyr Asn Lys  
 325 330 335  
 Asp Met Pro Asn Ile Ile Gly Tyr Leu Ser His Ile Leu Tyr Gln Asn  
 340 345 350  
 Glu Leu Lys Tyr Asn Ile Thr Ala Lys Tyr Gly Lys Ile Pro Lys Asp  
 355 360 365  
 Ile Lys Glu Asn Tyr Phe Glu Ile Lys Asn Asp Lys Ile Glu Ile His  
 370 375 380  
 Pro Lys Thr Val Tyr Glu Val Asp Lys Ser Phe Ile Asp Glu Ile Leu  
 385 390 395 400  
 Lys Lys Asp Leu Ala Ser Leu Phe Leu Lys Asn Lys Asn Pro Ile Leu  
 405 410 415

Ile Tyr Lys Glu Asn Lys Asn Asn Ile Asn Thr Asp Lys Lys Asn Tyr  
 420 425 430

Lys Ile Leu Phe Phe Phe Ser Leu Pro Phe Phe Val Leu Leu Phe Leu  
 435 440 445

Phe Lys Ala Ile Arg Phe Thr Ile Leu Leu Asn Ile Asn Glu Lys Thr  
 450 455 460

Tyr Lys Lys Tyr Ile Gln Gly  
 465 470

<210> 575  
 <211> 1473  
 <212> DNA  
 <213> Homo sapiens

<400> 575  
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 gatgcagctc aatttggaga ctacaaacct ttatactttg aaaatgaaaa tgatctaaaa 120  
 actgccaatg aatatataaa ttcactagga tacaaaacaa tctcagaata cacaacaaaa 180  
 attgacattt tagactttcc cgaaaataaa gaaatcacaa taaatgagat aaacaaactt 240  
 aacaatcttg acctgagaaa aagcatatatt ttaaaaaagc tctccaatct tttcaacata 300  
 gagcacaaaa aacttcttta tgttgaaaac aggtttaaaa gtataaattt taaaaaccta 360  
 aaaaaagaac tcaatattaa tgccgacata cattctcttg actacaaaac aaaaattaat 420  
 tttatttcaa gcataatatt tctaatacata ataattttat taattttttt agacccaaca 480  
 aactctatat ttactttaat ttttctatta atttcctctc ttgcttttat gataagcaaaa 540  
 gaaataatgt atttttatcc atttacagtt ctctcttatt tgttattttt aataatcagt 600  
 aattttaaca aaaattacaa taaaatatat ttaaaagaaa taaatttttt aacactaatg 660  
 acaaaaataa aacacttact atttttattt acattcacag ctctatatatt cattacaatc 720  
 acaacctttt ttactacaaa tattgatccc acttttattg catttgctgc aataccaacc 780  
 ctttgcattt tcttaatttt cagctggata aaacagaaa gcaattttta agacactttc 840  
 ttattcccaa tcgagattaa agagaaaaaa atagaaggaa aaaaagcttt aaaatcaaaa 900  
 atagcaatac atctactact atttacactc tcattaattc ctttcgctta ttcaagctat 960  
 atgctaaatt cttatgaaaa cattaactac ctttacagta aaaaatttaa ttactttgat 1020  
 tatttaaatc ctaataacat ttatataatg ctgggataca acaaagacat gcccaatatt 1080  
 atagggtacc tatcccatat tctttatcaa aacgaactaa aatacaatat taccgctaag 1140  
 tatggaaaaa ttcctaaaga tataaaagaa aattactttg aaatcaaaaa cgacaaaata 1200  
 gaaattcatc ctaaaactgt ttacgaagta gacaaatcat ttattgatga aattcttaaa 1260  
 aaagatcttg caagtctgtt tttaaaaaat aaaaatccaa tcctaataata taaagaaaac 1320  
 aagaataata tcaacacaga taaaaaaaat tacaaaatac ttttcttttt ctctttgccc 1380  
 ttctttgtat tactattcct atttaagca ataagattta caattctttt aaacataaat 1440  
 gaaaaaacct ataaaaaata tattcaagga taa 1473

<210> 576  
 <211> 1416  
 <212> DNA  
 <213> Homo sapiens

<400> 576  
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 aaaactgcc aatgaatat aaattcacta ggatacaaaa caatctcaga atacacaaca 120  
 aaaattgaca ttttagactt tcccgaaaat aaagaaatca caataaatga gataaacaaa 180  
 cttaacaatc ttgacctgag aaaaagcata tttttaaaaa agctctccaa tcttttcaac 240  
 atagagcaca aaaaacttct ttatgttgaa aacaggttta aaagtataaa ttttaaaaac 300  
 ctaaaaaaag aactcaatat taatgccgac atacattctc ttgactacaa aacaaaaatt 360  
 aattttattt caagcataat atttctaata ataataattt tattaatttt ttagaccca 420  
 acaaaactcta tatttacttt aatttttcta ttaatttcat ctcttgcttt tatgataagc 480  
 aaagaaataa tgtattttta tccatttaca gttctctctt atttgttatt ttttaataatc 540  
 agtaatttta acaaaaatta caataaaaata tatttaaaag aaataaattt tttacacta 600



Lys Leu Thr Pro Val His Leu Leu Lys Lys Ile Phe Leu Glu Thr Gly  
                     20                    25                    30  
 Gly Met Pro Ser Ser His Ser Ser Thr Val Thr Ala Leu Ser Thr Ser  
                     35                    40                    45  
 Ile Ala Leu Thr Glu Gly Ile Asp Thr Asn Phe Ile Ile Ala Leu Ala  
                     50                    55                    60  
 Phe Ala Leu Ile Thr Ile Arg Asp Ser Phe Gly Val Arg Tyr Met Ser  
                     65                    70                    75                    80  
 Gly Val Gln Ala Glu Tyr Leu Asn Ala Leu Ser Glu Lys Leu Lys Lys  
                     85                    90                    95  
 Glu Ile Lys Ile Asp Thr Thr Lys Ile Lys Val Val Lys Gly His Lys  
                     100                    105                    110  
 Lys Lys Glu Val Leu Thr Gly Ile Ile Ile Gly Ile Val Ser Ala Tyr  
                     115                    120                    125  
 Ile Val Cys Tyr Phe  
                     130

<210> 579  
 <211> 462  
 <212> DNA  
 <213> Homo sapiens

<400> 579  
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 gctcaagtga ttaaataatgg tatccaaact gtaaaaacaa gaaagttaaa actaactcca 120  
 gtacatcttt taaaaaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 180  
 acggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 240  
 atagctcttg catttgccct tattacaata agagattctt tcggcgtaag atatatgtct 300  
 ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 360  
 gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 420  
 ataataggaa tagtctctgc gtatattgtg tgctattttt ag 462

<210> 580  
 <211> 402  
 <212> DNA  
 <213> Homo sapiens

<400> 580  
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 gtacatcttt taaaaaaaaat ttttctagaa acaggaggca tgccaagtag tcattcatca 120  
 acggtcaccg ctctttcaac ctcaatcgca ctaactgaag gaatagatac aaattttata 180  
 atagctcttg catttgccct tattacaata agagattctt tcggcgtaag atatatgtct 240  
 ggagttcaag cagaatattt aaatgcatta tcagaaaaat taaaaaaaga aataaaaatt 300  
 gacacaacaa aaataaaagt ggtcaagggg cacaaaaaga aagaggttct aacgggcata 360  
 ataataggaa tagtctctgc gtatattgtg tgctattttt ag 402

<210> 581  
 <211> 107  
 <212> PRT  
 <213> Homo sapiens

<400> 581  
 Met Tyr Ile Gly Ala Ala Gly Lys Ser Phe Ser Ile Ile Ile Asp Ser



1                      5                      10                      15  
 Ala Phe Leu Ser Asn Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser  
                     20                      25                      30  
 Asp Ser Leu Met Ser Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp  
                     35                      40                      45  
 Ala Ser Cys Glu Phe Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly  
                     50                      55                      60  
 Ser Lys Tyr Ser Pro Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro  
                     65                      70                      75                      80  
 Val Phe Leu Leu Leu Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile  
                     85                      90                      95  
 Arg Leu Ile Phe Arg Ile Phe Phe His Trp Phe  
                     100                      105

<210> 582  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 582  
 Cys Phe Leu Phe Ile Gly Ser Phe Ser Arg Ser Asp Ser Leu Met Ser  
                     1                      5                      10                      15  
 Leu Ser Asn Ser Arg Phe Glu Tyr Pro Tyr Asp Ala Ser Cys Glu Phe  
                     20                      25                      30  
 Ser Leu Val Asn Ile Val Lys Tyr Val Cys Gly Ser Lys Tyr Ser Pro  
                     35                      40                      45  
 Met Arg Pro Thr Leu Ile Ile Ser Lys Leu Pro Val Phe Leu Leu Leu  
                     50                      55                      60  
 Val Arg Thr Gly Gln Phe Ser Leu Val Ser Ile Arg Leu Ile Phe Arg  
                     65                      70                      75                      80  
 Ile Phe Phe His Trp Phe  
                     85

<210> 583  
 <211> 324  
 <212> DNA  
 <213> Homo sapiens

<400> 583  
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 aattgttttc tttttatagg atctttttca agatctgatt ctctgatgag tttgtcaaag 120  
 tctaggtttg aatatccgta tgatgcaagt tgtgaatttt ctcttgtaa tatagtaaag 180  
 tatgtgtgtg gatctaaata ttccccaatg cgtccaactc ttattatttc aaaattgcca 240  
 gtatttctgc tgttggttaag aacaggccaa ttttcgttgg taagcataag attgatattt 300  
 agaatttttt tccattggtt ttga 324

<210> 584  
 <211> 261  
 <212> DNA

<213> Homo sapiens

<400> 584

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tgttttcttt ttataggatc tttttcaaga tctgattctc tgatgagttt gtcaaattct 60
aggtttgaat atccgtatga tgcaagttgt gaattttctc ttgtgaatat agtaaagtat 120
gtgtgtggat ctaaatttc cccaatgcgt ccaactctta ttatttcaaa attgccagta 180
tttctgctgt tggtagaac aggccaattt tcgttggtaa gcataagatt gatatttaga 240
atttttttcc attggttttg a 261
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<210> 585

<211> 528

<212> PRT

<213> Homo sapiens

<400> 585

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Met Lys Leu Gln Arg Ser Leu Phe Leu Ile Ile Phe Phe Leu Thr Phe
  1              5              10              15

Leu Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile
      20              25              30

Ser Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp
      35              40              45

Asn Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr
      50              55              60

Gly Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp
      65              70              75              80

Asp Ile Ser Ser Asp Gly Thr Val Tyr Thr Phe Asn Leu Arg Glu Lys
      85              90              95

Ile Thr Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Gly Ile Arg Lys
      100             105             110

Ser Tyr Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Lys Tyr Val Glu
      115             120             125

Met Val Lys Ser Val Ile Lys Asn Gly Gln Lys Tyr Phe Asp Gly Gln
      130             135             140

Val Thr Asp Ser Glu Leu Gly Ile Arg Ala Ile Asp Glu Lys Thr Leu
      145             150             155             160

Glu Ile Thr Leu Glu Ser Pro Lys Pro Tyr Phe Ile Asp Met Leu Val
      165             170             175

His Gln Ser Phe Ile Pro Val Pro Val His Val Thr Glu Lys Tyr Gly
      180             185             190

Gln Asn Trp Thr Ser Pro Glu Asn Met Val Thr Ser Gly Pro Phe Lys
      195             200             205

Leu Lys Glu Arg Ile Pro Asn Glu Lys Tyr Val Phe Glu Lys Asn Asn
      210             215             220

Lys Tyr Tyr Asp Ser Asn Glu Val Glu Leu Glu Glu Ile Thr Phe Tyr
      225             230             235             240
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Thr Thr Asn Asp Ser Ser Thr Ala Tyr Lys Met Tyr Glu Asn Glu Glu  
 245 250 255  
 Leu Asp Ala Ile Phe Gly Ser Ile Pro Pro Asp Leu Ile Lys Asn Leu  
 260 265 270  
 Lys Leu Arg Ser Asp Tyr Tyr Ser Ser Ala Val Asn Ala Ile Tyr Phe  
 275 280 285  
 Tyr Ala Phe Asn Thr His Ile Lys Pro Leu Asp Asn Val Lys Ile Arg  
 290 295 300  
 Lys Ala Leu Thr Leu Ala Ile Asp Arg Glu Thr Leu Thr Tyr Lys Val  
 305 310 315 320  
 Leu Asp Asn Gly Thr Thr Pro Thr Arg Arg Ala Thr Pro Asn Phe Ser  
 325 330 335  
 Ser Tyr Ser Tyr Ala Lys Ser Leu Glu Leu Phe Asn Pro Glu Ile Ala  
 340 345 350  
 Lys Thr Leu Leu Ala Glu Ala Gly Tyr Pro Asn Gly Asn Gly Phe Pro  
 355 360 365  
 Ile Leu Lys Leu Lys Tyr Asn Thr Asn Glu Ala Asn Lys Lys Ile Cys  
 370 375 380  
 Glu Phe Ile Gln Asn Gln Trp Lys Lys Asn Leu Asn Ile Asp Val Glu  
 385 390 395 400  
 Leu Glu Asn Glu Glu Trp Thr Thr Tyr Leu Asn Thr Lys Ala Asn Gly  
 405 410 415  
 Asn Tyr Glu Ile Ala Arg Ala Gly Trp Ile Gly Asp Tyr Ala Asp Pro  
 420 425 430  
 Leu Thr Phe Leu Ser Ile Phe Thr Gln Gly Tyr Thr Gln Phe Ser Ser  
 435 440 445  
 His Asn Tyr Ser Asn Pro Glu Tyr Asn Glu Leu Ile Lys Lys Ser Asp  
 450 455 460  
 Leu Glu Leu Asp Pro Ile Lys Arg Gln Asp Ile Leu Arg Gln Ala Glu  
 465 470 475 480  
 Glu Ile Ile Ile Glu Lys Asp Phe Pro Ile Ala Pro Ile Tyr Ile Tyr  
 485 490 495  
 Gly Asn Ser Tyr Leu Phe Arg Asn Asp Lys Trp Thr Gly Trp Asn Thr  
 500 505 510  
 Asn Ile Leu Glu Arg Phe Asp Leu Ser Gln Leu Lys Leu Lys Asn Lys  
 515 520 525

<210> 586

<211> 511

<212> PRT

<213> Homo sapiens

<400> 586

Cys Cys Asn Asn Lys Glu Arg Lys Glu Gly Val Ser Phe Lys Ile Ser  
 1 5 10 15  
 Leu Gly Ala Glu Pro Ser Ser Leu Asp Pro Gln Leu Ala Glu Asp Asn  
 20 25 30  
 Val Ala Ser Lys Met Ile Asp Thr Met Phe Arg Gly Ile Val Thr Gly  
 35 40 45  
 Asp Pro Asn Thr Gly Gly Asn Lys Pro Gly Leu Ala Lys Gly Trp Asp  
 50 55 60  
 Ile Ser Ser Asp Gly Thr Val Tyr Thr Phe Asn Leu Arg Glu Lys Ile  
 65 70 75 80  
 Thr Trp Ser Asp Gly Val Ala Ile Thr Ala Glu Gly Ile Arg Lys Ser  
 85 90 95  
 Tyr Leu Arg Ile Leu Asn Lys Glu Thr Gly Ser Lys Tyr Val Glu Met  
 100 105 110  
 Val Lys Ser Val Ile Lys Asn Gly Gln Lys Tyr Phe Asp Gly Gln Val  
 115 120 125  
 Thr Asp Ser Glu Leu Gly Ile Arg Ala Ile Asp Glu Lys Thr Leu Glu  
 130 135 140  
 Ile Thr Leu Glu Ser Pro Lys Pro Tyr Phe Ile Asp Met Leu Val His  
 145 150 155 160  
 Gln Ser Phe Ile Pro Val Pro Val His Val Thr Glu Lys Tyr Gly Gln  
 165 170 175  
 Asn Trp Thr Ser Pro Glu Asn Met Val Thr Ser Gly Pro Phe Lys Leu  
 180 185 190  
 Lys Glu Arg Ile Pro Asn Glu Lys Tyr Val Phe Glu Lys Asn Asn Lys  
 195 200 205  
 Tyr Tyr Asp Ser Asn Glu Val Glu Leu Glu Glu Ile Thr Phe Tyr Thr  
 210 215 220  
 Thr Asn Asp Ser Ser Thr Ala Tyr Lys Met Tyr Glu Asn Glu Glu Leu  
 225 230 235 240  
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<212> DNA

<213> Homo sapiens

<400> 593

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aatgtaaaag aagtttcgga tagtgttcaa gaagatggtc ttaatgattt atataataat 180
caagaaaagc aaaaaagctt tactaaaaat tttggagaac ggaaatatga ggatttaatt 240
aatcctatag agcctataat accttcagaa tcaccaaaga ataaggctaa tataccaaat 300
atttcaattg cgcatactga aaaaaaagag acaaaaaagg agaatttaat cccttctact 360
aatgaagaaa aggaagctga tgcagcaatt aaatatttag aagaaaatat tcttaaaaaa 420

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tctaaatttt ctgaattaat tagagaagta cgtgtaatta aagatgaata tgctttaata 480  
aaagctgatt tgtatgatgt aattggaaaag attaacaata aaaaaacatc attaatggag 540  
aatcctaaga acaatagaga taagataaat aaattaacac aattggtgca aaataattta 600  
aagatagata gtgaacttga gcagcttata aatatgattg atatggcaga aaatgaaata 660  
agctctgcgg ctttcttttt tgacaacgct cagaaaagggt taaaagaaag cattattaaa 720  
agattagaga gtaaaaaataa tagatcttat gcattaaaat tgtctagaca ggctttaagt 780  
gacgcaagaa gtgctttaag taatttagaa tcttttgcct ctaaaagaat tgaaccaatg 840  
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aataaaaaat aa 912

<210> 594

<211> 841

<212> DNA

<213> Homo sapiens

<400> 594

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gcaaaaaagc tttactaaaa attttggaga acggaaatat gaggatttaa ttaatcctat 180  
agagcctata ataccttcag aatcaccaaaa gaataaggct aatataccaa atatttcaat 240  
tgcgcatact gaaaaaaaaag agacaaaaaaa ggagaattta atcccttcta ctaatgaaga 300  
aaaggaagct gatgcagcaa ttaaatattt agaagaaaat attcttaaaa actctaaatt 360  
ttctgaatta attagagaag tacgtgtaat taaagatgaa tatgctttaa taaaagctga 420  
tttgtatgat gtaattggaa agattaacaa taaaaaaaca tcattaatgg agaatcctaa 480  
gaacaataga gataagataa ataaattaac acaattgttg caaaataatt taaagataga 540  
tagtgaactt gaggagctta taaatatgat tgatatggca gaaaatgaaa taagctctgc 600  
ggctttcttt tttgacaacg ctcagaaaaag gttaaaaagaa agcattatta aaagattaga 660  
gagtaaaaaat aatagatctt atgcattaaa attgtctaga caggctttaa gtgacgcaag 720  
aagtgtctta agtaatttag aatcttttgc ctctaaaaga attgaaccaa tggtgagaaa 780  
ggaagaaata aaagagctta ttaaacatgc aaaaactgtt ttagaaagtc tcaataaaaa 840  
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<210> 595

<211> 302

<212> PRT

<213> Homo sapiens

<400> 595

Lys Glu Asn Ile Phe Met Arg Lys Ser Leu Phe Leu Tyr Ala Leu Leu  
1 5 10 15

Met Gly Gly Leu Met Ser Cys Asn Leu Asp Ser Lys Leu Ser Ser Asn  
20 25 30

Lys Glu Gln Lys Asn Asn Asn Asn Val Lys Glu Val Ser Asp Ser Val  
35 40 45

Gln Glu Asp Gly Leu Asn Asp Leu Tyr Asn Asn Gln Glu Lys Gln Lys  
50 55 60

Ser Phe Thr Lys Asn Phe Gly Glu Arg Lys Tyr Glu Asp Leu Ile Asn  
65 70 75 80

Pro Ile Glu Pro Ile Ile Pro Ser Glu Ser Pro Lys Asn Lys Ala Asn  
85 90 95

Ile Pro Asn Ile Ser Ile Ala His Thr Glu Lys Lys Glu Thr Lys Lys  
100 105 110

Glu Asn Leu Ile Pro Ser Thr Asn Glu Glu Lys Glu Ala Asp Ala Ala

115					120					125						
Ile	Lys	Tyr	Leu	Glu	Glu	Asn	Ile	Leu	Lys	Asn	Ser	Lys	Phe	Ser	Glu	
130					135					140						
Leu	Ile	Arg	Glu	Val	Arg	Val	Ile	Lys	Asp	Glu	Tyr	Ala	Leu	Ile	Lys	
145					150					155					160	
Ala	Asp	Leu	Tyr	Asp	Val	Ile	Gly	Lys	Ile	Asn	Asn	Lys	Lys	Thr	Ser	
165					170					175						
Leu	Met	Glu	Asn	Pro	Lys	Asn	Asn	Arg	Asp	Lys	Ile	Asn	Lys	Leu	Thr	
180					185					190						
Gln	Leu	Leu	Gln	Asn	Asn	Leu	Lys	Ile	Asp	Ser	Glu	Leu	Glu	Gln	Leu	
195					200					205						
Ile	Asn	Met	Ile	Asp	Met	Ala	Glu	Asn	Glu	Ile	Ser	Ser	Ala	Ala	Phe	
210					215					220						
Phe	Phe	Asp	Asn	Ala	Gln	Lys	Arg	Leu	Lys	Glu	Ser	Ile	Ile	Lys	Arg	
225					230					235					240	
Leu	Glu	Ser	Lys	Asn	Asn	Arg	Ser	Tyr	Ala	Leu	Lys	Leu	Ser	Arg	Gln	
245					250					255						
Ala	Leu	Ser	Asp	Ala	Arg	Ser	Ala	Leu	Ser	Asn	Leu	Glu	Ser	Phe	Ala	
260					265					270						
Ser	Lys	Arg	Ile	Glu	Pro	Met	Val	Arg	Lys	Glu	Glu	Ile	Lys	Glu	Leu	
275					280					285						
Ile	Lys	His	Ala	Lys	Thr	Val	Leu	Glu	Ser	Leu	Asn	Lys	Lys			
290					295					300						

<210> 596  
 <211> 280  
 <212> PRT  
 <213> Homo sapiens

<400> 596																
Cys	Asn	Leu	Asp	Ser	Lys	Leu	Ser	Ser	Asn	Lys	Glu	Gln	Lys	Asn	Asn	
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Asn	Asn	Val	Lys	Glu	Val	Ser	Asp	Ser	Val	Gln	Glu	Asp	Gly	Leu	Asn	
20					25					30						
Asp	Leu	Tyr	Asn	Asn	Gln	Glu	Lys	Gln	Lys	Ser	Phe	Thr	Lys	Asn	Phe	
35					40					45						
Gly	Glu	Arg	Lys	Tyr	Glu	Asp	Leu	Ile	Asn	Pro	Ile	Glu	Pro	Ile	Ile	
50					55					60						
Pro	Ser	Glu	Ser	Pro	Lys	Asn	Lys	Ala	Asn	Ile	Pro	Asn	Ile	Ser	Ile	
65					70					75					80	
Ala	His	Thr	Glu	Lys	Lys	Glu	Thr	Lys	Lys	Glu	Asn	Leu	Ile	Pro	Ser	
85					90					95						
Thr	Asn	Glu	Glu	Lys	Glu	Ala	Asp	Ala	Ala	Ile	Lys	Tyr	Leu	Glu	Glu	

100	105	110
Asn Ile Leu Lys Asn Ser Lys Phe Ser Glu Leu Ile Arg Glu Val Arg		
115	120	125
Val Ile Lys Asp Glu Tyr Ala Leu Ile Lys Ala Asp Leu Tyr Asp Val		
130	135	140
Ile Gly Lys Ile Asn Asn Lys Lys Thr Ser Leu Met Glu Asn Pro Lys		
145	150	155
Asn Asn Arg Asp Lys Ile Asn Lys Leu Thr Gln Leu Leu Gln Asn Asn		
165	170	175
Leu Lys Ile Asp Ser Glu Leu Glu Gln Leu Ile Asn Met Ile Asp Met		
180	185	190
Ala Glu Asn Glu Ile Ser Ser Ala Ala Phe Phe Phe Asp Asn Ala Gln		
195	200	205
Lys Arg Leu Lys Glu Ser Ile Ile Lys Arg Leu Glu Ser Lys Asn Asn		
210	215	220
Arg Ser Tyr Ala Leu Lys Leu Ser Arg Gln Ala Leu Ser Asp Ala Arg		
225	230	235
Ser Ala Leu Ser Asn Leu Glu Ser Phe Ala Ser Lys Arg Ile Glu Pro		
245	250	255
Met Val Arg Lys Glu Glu Ile Lys Glu Leu Ile Lys His Ala Lys Thr		
260	265	270
Val Leu Glu Ser Leu Asn Lys Lys		
275	280	

<210> 597  
 <211> 714  
 <212> DNA  
 <213> Homo sapiens

<400> 597  
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 acatctattg atcaagtatt agatgagata agtgaagcca caggcctaag ttcggaaaaa 180  
 atcacaaaat taactccgga agagctagaa aatttagcaa aggaagctca agatgactct 240  
 gaaaaatcca aaaaagaaat tgaagatcaa aaaaatacca aggaaagtaa aaacatagaa 300  
 gtaaaggata ctctcgctt aatcaaattg ataaagaatt catcagaaaa aattgattcg 360  
 gtttttcaaa cactaattaa tataggttat aatgctacct atgcagccaa aagtaatttg 420  
 aagaatggac taaagatggt gaaattactg gatgagttgc taaaaatatac ggtaagtagc 480  
 aatggtgata aaagtaccca aaaatacaat gaacttaaaa ccgttgtaaa taagttaa 540  
 gctgaaaatt cggtaaagcgt ttctttttaa gaacattcaa acagtaaaat tgaaactaaa 600  
 aaatgtattc aaactcttat gaaaaatgta gaaacatact ttgaagggtg atgcagcgaa 660  
 cttaaaaaca aaaatgatgg tgagtacgaa aaaacattga caactttaag ctaa 714

<210> 598  
 <211> 634  
 <212> DNA  
 <213> Homo sapiens

<400> 598

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atgtaaatgg tatgtagaca ataccattga tgaagcaact gtagaaagta aatcagcact 60
aacatctatt gatcaagtat tagatgagat aagtgaagcc acaggcctaa gttcggaaaa 120
aatcacaaaa ttaactccgg aagagctaga aaatttagca aaggaagctc aagatgactc 180
tgaaaaatcc aaaaaagaaa ttgaagatca aaaaaatacc aaggaaagta aaaacataga 240
agtaaaggat actcctcgct taatcaaatt gataaagaat tcatcagaaa aaattgattc 300
ggtttttcaa acactaatta atataggtta taatgctacc tatgcagcca aaagtaattt 360
gaagaatgga ctaaagatgg tgaaattact ggatgagttg ctaaaaatat cggtaagtag 420
caatggatgat aaaagtaccc aaaaatacaa tgaacttaaa accggtgtaa ataagtttaa 480
tgctgaaaat tcggtgaagcg tttcttttaa agaacattca aacagtaaaa ttgaaactaa 540
aaaatgtatt caaactctta tgaaaaatgt agaaacatac tttgaagggtg tatgcagcga 600
acttaaaaac aaaaatgatg gtgagtacga aaaa 634

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<210> 599

<211> 236

<212> PRT

<213> Homo sapiens

<400> 599

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Arg Ser Leu Gln Met Ser Lys Leu Ile Leu Ala Ile Ser Ile Leu Leu
  1                      5                      10                      15

Ile Ile Ser Cys Lys Trp Tyr Val Asp Asn Thr Ile Asp Glu Ala Thr
      20                      25                      30

Val Glu Ser Lys Ser Ala Leu Thr Ser Ile Asp Gln Val Leu Asp Glu
      35                      40                      45

Ile Ser Glu Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr
      50                      55                      60

Pro Glu Glu Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu
      65                      70                      75                      80

Lys Ser Lys Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys
      85                      90                      95

Asn Ile Glu Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn
      100                      105                      110

Ser Ser Glu Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly
      115                      120                      125

Tyr Asn Ala Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys
      130                      135                      140

Met Val Lys Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn
      145                      150                      155                      160

Gly Asp Lys Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn
      165                      170                      175

Lys Phe Asn Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser
      180                      185                      190

Asn Ser Lys Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn
      195                      200                      205

Val Glu Thr Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn
      210                      215                      220

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Asp Gly Glu Tyr Glu Lys Thr Leu Thr Thr Leu Ser  
 225 230 235

<210> 600  
 <211> 211  
 <212> PRT  
 <213> Homo sapiens

<400> 600  
 Cys Lys Trp Tyr Val Asp Asn Thr Ile Asp Glu Ala Thr Val Glu Ser  
 1 5 10 15

Lys Ser Ala Leu Thr Ser Ile Asp Gln Val Leu Asp Glu Ile Ser Glu  
 20 25 30

Ala Thr Gly Leu Ser Ser Glu Lys Ile Thr Lys Leu Thr Pro Glu Glu  
 35 40 45

Leu Glu Asn Leu Ala Lys Glu Ala Gln Asp Asp Ser Glu Lys Ser Lys  
 50 55 60

Lys Glu Ile Glu Asp Gln Lys Asn Thr Lys Glu Ser Lys Asn Ile Glu  
 65 70 75 80

Val Lys Asp Thr Pro Arg Leu Ile Lys Leu Ile Lys Asn Ser Ser Glu  
 85 90 95

Lys Ile Asp Ser Val Phe Gln Thr Leu Ile Asn Ile Gly Tyr Asn Ala  
 100 105 110

Thr Tyr Ala Ala Lys Ser Asn Leu Lys Asn Gly Leu Lys Met Val Lys  
 115 120 125

Leu Leu Asp Glu Leu Leu Lys Ile Ser Val Ser Ser Asn Gly Asp Lys  
 130 135 140

Ser Thr Gln Lys Tyr Asn Glu Leu Lys Thr Val Val Asn Lys Phe Asn  
 145 150 155 160

Ala Glu Asn Ser Val Ser Val Ser Phe Lys Glu His Ser Asn Ser Lys  
 165 170 175

Ile Glu Thr Lys Lys Cys Ile Gln Thr Leu Met Lys Asn Val Glu Thr  
 180 185 190

Tyr Phe Glu Gly Val Cys Ser Glu Leu Lys Asn Lys Asn Asp Gly Glu  
 195 200 205

Tyr Glu Lys  
 210

<210> 601  
 <211> 384  
 <212> DNA  
 <213> Homo sapiens

<400> 601  
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 atgttaattt caataagttt attatcatgt gatgtagta gattaaatca gagaaatatt 120  
 aatgagctta aaatttttgt tgaaaaggcc aagtattatt ctataaaatt agacgctatt 180

tataacgaat gtacaggagc atataatgat attatgactt attcggaagg tacattttct 240  
 gatcaaagta aggttaatca agctatatct atatttataaa aagacaataa aattgttaat 300  
 aagtttaagg agcttgaaaa gattatagaa gaatacaaac ctatgttttt aagtaaatta 360  
 attgatgatt ttgcgggatc cggt 384

<210> 602

<211> 286

<212> DNA

<213> Homo sapiens

<400> 602

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 ggccaagtat tattctataa aattagacgc tatttataac gaatgtacag gagcatataa 120  
 tgatattatg acttattcgg aagggtacatt ttctgatcaa agtaagggtta atcaagctat 180  
 atctatattt aaaaaagaca ataaaattgt taataagttt aaggagcttg aaaagattat 240  
 agaagaatac aaacctatgt ttttaagtaa attaattgat gatttt 286

<210> 603

<211> 127

<212> PRT

<213> Homo sapiens

<400> 603

Ile	Ser	Lys	Asp	Phe	Ser	Arg	Gly	Glu	Asn	Met	Lys	Lys	Ser	Phe	Leu
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Ser	Ile	Tyr	Met	Leu	Ile	Ser	Ile	Ser	Leu	Leu	Ser	Cys	Asp	Val	Ser
			20					25					30		
Arg	Leu	Asn	Gln	Arg	Asn	Ile	Asn	Glu	Leu	Lys	Ile	Phe	Val	Glu	Lys
		35					40					45			
Ala	Lys	Tyr	Tyr	Ser	Ile	Lys	Leu	Asp	Ala	Ile	Tyr	Asn	Glu	Cys	Thr
	50					55					60				
Gly	Ala	Tyr	Asn	Asp	Ile	Met	Thr	Tyr	Ser	Glu	Gly	Thr	Phe	Ser	Asp
65					70					75					80
Gln	Ser	Lys	Val	Asn	Gln	Ala	Ile	Ser	Ile	Phe	Lys	Lys	Asp	Asn	Lys
			85						90					95	
Ile	Val	Asn	Lys	Phe	Lys	Glu	Leu	Glu	Lys	Ile	Ile	Glu	Glu	Tyr	Lys
		100						105					110		
Pro	Met	Phe	Leu	Ser	Lys	Leu	Ile	Asp	Asp	Phe	Ala	Gly	Ser	Val	
	115						120					125			

<210> 604

<211> 95

<212> PRT

<213> Homo sapiens

<400> 604

Cys	Asp	Val	Ser	Arg	Leu	Asn	Gln	Arg	Asn	Ile	Asn	Glu	Leu	Lys	Ile
1					5					10				15	
Phe	Val	Glu	Lys	Ala	Lys	Tyr	Tyr	Ser	Ile	Lys	Leu	Asp	Ala	Ile	Tyr
			20					25					30		
Asn	Glu	Cys	Thr	Gly	Ala	Tyr	Asn	Asp	Ile	Met	Thr	Tyr	Ser	Glu	Gly

35                      40                      45  
 Thr Phe Ser Asp Gln Ser Lys Val Asn Gln Ala Ile Ser Ile Phe Lys  
     50                      55                      60  
 Lys Asp Asn Lys Ile Val Asn Lys Phe Lys Glu Leu Glu Lys Ile Ile  
     65                      70                      75                      80  
 Glu Glu Tyr Lys Pro Met Phe Leu Ser Lys Leu Ile Asp Asp Phe  
                     85                      90                      95

<210> 605  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

<400> 605  
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 ttgcttttga atgcttgcaa ttcagatttt agcactaatc aagaagatat taaatatcca 120  
 tctgataaag agaaatcaaa atccaacatg gaagcaagct ctaaagaaga agatccaaat 180  
 aaaaaataa aaaatacact gcttaatgat ttaataaatt tgatagaaat agctaattgag 240  
 cataaagaaa aatatgaaaa aagaatgcaa gaagaacctt cagatcaata cggaatattg 300  
 gctttccagg aattagactt gtccgttggg aaaatatctg aagacacccc gcaatctaaa 360  
 aaatttagaa aaaacacctt ttctccctta agcgctattg atgtcaataa attaaaagat 420  
 ctttcagaga ttataagaaa ttcggggcaa atacaagggt tattttaatat tttcaacaga 480  
 ttcggaggga tttttgacga ctacttaat cagctatatt ctaaaaaaga tctcctaggg 540  
 ggactagaaa ttttggattt agataaacta aaaaattcgt ttgaaaaatt actatctata 600  
 aaagaaactt tctcaaaaat gctaaatcaa cttttattag attataaaaa tgataaagat 660  
 catatacgaa cagagacaaa taaacttaaa tctcatacaa ctgcactttt cgaacaactt 720  
 gataaaaaag aagacgaagc atatgaacct aaaaatcaga tatttttcaat aagtaacctt 780  
 taa 783

<210> 606  
 <211> 685  
 <212> DNA  
 <213> Homo sapiens

<400> 606  
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 atcaaaatcc aacatggaag caagctctaa agaagaagat ccaaataaaa aaataaaaaa 120  
 tacactgctt aatgatttaa taaatttgat agaaatagct aatgagcata aagaaaaata 180  
 tgaaaaaaga atgcaagaag aaccttcaga tcaatacgga atattggctt tccaggaatt 240  
 agacttgctc gttggaaaaa tatctgaaga caccctcgaa tctaaaaaat ttagaaaaaa 300  
 cacctattct cccttaagcg ctattgatgt caataaatta aaagatcttt cagagattat 360  
 aagaaattcg ggccaaatac aagggtttatt taatattttc aacagattcg gaggcatttt 420  
 tgacgactca cttaatcacg tatattctaa aaaagatatc ctaggggggac tagaaatttt 480  
 ggatttagat aaactaaaaa attcgtttga aaaattacta tctataaaaag aaactttctc 540  
 aaaaatgcta aatcaacttt tattagatta taaaaatgat aaagatcata tacgaacaga 600  
 gacaaataaa cttaaattct atacaactgc acttttctgaa caacttgata aaaaagaaga 660  
 cgaagcatat gaacctaaaa atcag 685

<210> 607  
 <211> 259  
 <212> PRT  
 <213> Homo sapiens

<400> 607  
 Ile Gln Ser His Ser Arg Arg Val Phe Met Lys Tyr Tyr Ile Cys Val  
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Cys Val Phe Leu Leu Leu Asn Ala Cys Asn Ser Asp Phe Ser Thr Asn  
                   20                                  25                                  30  
 Gln Glu Asp Ile Lys Tyr Pro Ser Asp Lys Glu Lys Ser Lys Ser Asn  
                   35                                  40                                  45  
 Met Glu Ala Ser Ser Lys Glu Glu Asp Pro Asn Lys Lys Ile Lys Asn  
                   50                                  55                                  60  
 Thr Leu Leu Asn Asp Leu Ile Asn Leu Ile Glu Ile Ala Asn Glu His  
                   65                                  70                                  75                                  80  
 Lys Glu Lys Tyr Glu Lys Arg Met Gln Glu Glu Pro Ser Asp Gln Tyr  
                                   85                                  90                                  95  
 Gly Ile Leu Ala Phe Gln Glu Leu Asp Leu Ser Val Gly Lys Ile Ser  
                   100                                  105                                  110  
 Glu Asp Thr Pro Gln Ser Lys Lys Phe Arg Lys Asn Thr Tyr Ser Pro  
                   115                                  120                                  125  
 Leu Ser Ala Ile Asp Val Asn Lys Leu Lys Asp Leu Ser Glu Ile Ile  
                   130                                  135                                  140  
 Arg Asn Ser Gly Gln Ile Gln Gly Leu Phe Asn Ile Phe Asn Arg Phe  
                   145                                  150                                  155                                  160  
 Gly Gly Ile Phe Asp Asp Ser Leu Asn His Val Tyr Ser Lys Lys Asp  
                                   165                                  170                                  175  
 Ile Leu Gly Gly Leu Glu Ile Leu Asp Leu Asp Lys Leu Lys Asn Ser  
                   180                                  185                                  190  
 Phe Glu Lys Leu Leu Ser Ile Lys Glu Thr Phe Ser Lys Met Leu Asn  
                   195                                  200                                  205  
 Gln Leu Leu Leu Asp Tyr Lys Asn Asp Lys Asp His Ile Arg Thr Glu  
                   210                                  215                                  220  
 Thr Asn Lys Leu Lys Ser His Thr Thr Ala Leu Phe Glu Gln Leu Asp  
                   225                                  230                                  235                                  240  
 Lys Lys Glu Asp Glu Ala Tyr Glu Pro Lys Asn Gln Ile Phe Ser Ile  
                   245                                  250                                  255  
 Ser Asn Leu

<210> 608  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 608  
 Cys Asn Ser Asp Phe Ser Thr Asn Gln Glu Asp Ile Lys Tyr Pro Ser  
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 Asp Lys Glu Lys Ser Lys Ser Asn Met Glu Ala Ser Ser Lys Glu Glu  
                   20                                  25                                  30

Asp Pro Asn Lys Lys Ile Lys Asn Thr Leu Leu Asn Asp Leu Ile Asn  
 35 40 45  
 Leu Ile Glu Ile Ala Asn Glu His Lys Glu Lys Tyr Glu Lys Arg Met  
 50 55 60  
 Gln Glu Glu Pro Ser Asp Gln Tyr Gly Ile Leu Ala Phe Gln Glu Leu  
 65 70 75 80  
 Asp Leu Ser Val Gly Lys Ile Ser Glu Asp Thr Pro Gln Ser Lys Lys  
 85 90 95  
 Phe Arg Lys Asn Thr Tyr Ser Pro Leu Ser Ala Ile Asp Val Asn Lys  
 100 105 110  
 Leu Lys Asp Leu Ser Glu Ile Ile Arg Asn Ser Gly Gln Ile Gln Gly  
 115 120 125  
 Leu Phe Asn Ile Phe Asn Arg Phe Gly Gly Ile Phe Asp Asp Ser Leu  
 130 135 140  
 Asn His Val Tyr Ser Lys Lys Asp Ile Leu Gly Gly Leu Glu Ile Leu  
 145 150 155 160  
 Asp Leu Asp Lys Leu Lys Asn Ser Phe Glu Lys Leu Leu Ser Ile Lys  
 165 170 175  
 Glu Thr Phe Ser Lys Met Leu Asn Gln Leu Leu Leu Asp Tyr Lys Asn  
 180 185 190  
 Asp Lys Asp His Ile Arg Thr Glu Thr Asn Lys Leu Lys Ser His Thr  
 195 200 205  
 Thr Ala Leu Phe Glu Gln Leu Asp Lys Lys Glu Asp Glu Ala Tyr Glu  
 210 215 220

Pro Lys Asn Gln  
 225

<210> 609  
 <211> 912  
 <212> DNA  
 <213> Homo sapiens

<400> 609  
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 tcaaggccca aaactgaaag ctctaagcaa aaagaatcaa agcctaaaac agaagaagag 180  
 cttaagaaaa aacaacaaga agaagagctt aagaaaaaac aacaagaaga agagcttaag 240  
 aaaaaacaac aagaagaaga gcttaagaaa aaacaacaag aagaagagaa ggaagaacta 300  
 agaaaacaac aactaaaaaa tacgctatct aatgatttaa aaaagcaaat agaatcggcc 360  
 tacaatttta aagaaaaata tgtaaaaagt atggaaaaag aacctgaaga ccattacggg 420  
 atgacgtctt ttaggggatt gaattggggg ccagggactg aagatatatc tgacaatacc 480  
 gaaagatcta taagatatag aagacacact tatactgttt taagccccct ggatcctcat 540  
 gaattaaagg aattcgcaaa tattattcaa gatataaata aactagcatc agtagcaagt 600  
 atatttaatt cttttagcgc tattggagga gctcttgaca tagtaagtga tcacctatat 660  
 ttcaaaaaag acaatctaga caaactagat attgcagatt tagaaatact taaaaattca 720  
 tttgaacaaa tattatatat aaaaggaagt gttgcaggaa aagcaaaaaa actttttatta 780  
 gattataaaa atctaaaaac agatattaat aagcttaaat cttattcaaa tgaactggtt 840  
 aatggaatta agcaacaagc tctagaagca gaaaatctag aagagcttat agtgtcaaaa 900

tataaaacttt aa

912

<210> 610

<211> 847

<212> DNA

<213> Homo sapiens

<400> 610

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aaggcccaaa actgaaagct ctaagcaaaa agaatacaag cctaaaacag aagaagagct 120
taagaaaaaa caacaagaag aagagcttaa gaaaaaacia caagaagaag agcttaagaa 180
aaaacaacaa gaagaagagc ttaagaaaaa acaacaagaa gaagagaagg aagaactaag 240
aaaacaacaa ctaaaaaata cgctatctaa tgatttaaaa aagcaaatag aatcggccta 300
caatttttaa gaaaaatatg taaaaagtat ggaaaaagaa cctgaagacc attacgggat 360
gacgtctttt aggggattga attggggggc agggactgaa gatatatctg acaataccga 420
aagatctata agatatagaa gacacactta tactgtttta agccccctgg atcctcatga 480
attaaaggaa ttcgcaaata ttattcaaga tataaataaa ctagcatcag tagcaagtat 540
atttaattct tttagcgcta ttggaggagc tcttgacata gtaagtgatc acctatattt 600
caaaaaagac aatctagaca aactagatat tgcagattta gaaatactta aaaattcatt 660
tgaacaaata ttatatataa aaggaagtgt tgcaggaaaa gcaaaaaaac ttttattaga 720
ttataaaaat ctaaaaacag atattaataa gcttaaactt tattcaaag aactgggtta 780
tggaattaag caacaagctc tagaagcaga aaatctagaa gagcttatag tgtcaaaata 840
taaactt                                     847
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<210> 611

<211> 302

<212> PRT

<213> Homo sapiens

<400> 611

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Arg Arg Val Phe Met Lys Tyr His Ile Ile Thr Thr Ile Phe Val Phe
 1              5              10              15

Leu Phe Leu Ala Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile
 20              25              30

Lys Tyr Pro Pro Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys
 35              40              45

Gln Lys Glu Ser Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln
 50              55              60

Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys
 65              70              75              80

Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys
 85              90              95

Glu Glu Leu Arg Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu
100              105              110

Lys Lys Gln Ile Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys
115              120              125

Ser Met Glu Lys Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg
130              135              140

Gly Leu Asn Trp Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu
145              150              155              160
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Arg Ser Ile Arg Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu  
 165 170 175  
 Asp Pro His Glu Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn  
 180 185 190  
 Lys Leu Ala Ser Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly  
 195 200 205  
 Gly Ala Leu Asp Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn  
 210 215 220  
 Leu Asp Lys Leu Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe  
 225 230 235 240  
 Glu Gln Ile Leu Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys  
 245 250 255  
 Leu Leu Leu Asp Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys  
 260 265 270  
 Ser Tyr Ser Asn Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu  
 275 280 285  
 Ala Glu Asn Leu Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
 290 295 300  
 <210> 612  
 <211> 282  
 <212> PRT  
 <213> Homo sapiens  
 <400> 612  
 Cys Arg Pro Asp Phe Asn Ile Asp Gln Lys Asp Ile Lys Tyr Pro Pro  
 1 5 10 15  
 Thr Glu Lys Ser Arg Pro Lys Thr Glu Ser Ser Lys Gln Lys Glu Ser  
 20 25 30  
 Lys Pro Lys Thr Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu  
 35 40 45  
 Leu Lys Lys Lys Gln Gln Glu Glu Glu Leu Lys Lys Lys Gln Gln Glu  
 50 55 60  
 Glu Glu Leu Lys Lys Lys Gln Gln Glu Glu Glu Lys Glu Glu Leu Arg  
 65 70 75 80  
 Lys Gln Gln Leu Lys Asn Thr Leu Ser Asn Asp Leu Lys Lys Gln Ile  
 85 90 95  
 Glu Ser Ala Tyr Asn Phe Lys Glu Lys Tyr Val Lys Ser Met Glu Lys  
 100 105 110  
 Glu Pro Glu Asp His Tyr Gly Met Thr Ser Phe Arg Gly Leu Asn Trp  
 115 120 125  
 Gly Pro Gly Thr Glu Asp Ile Ser Asp Asn Thr Glu Arg Ser Ile Arg  
 130 135 140

Tyr Arg Arg His Thr Tyr Thr Val Leu Ser Pro Leu Asp Pro His Glu  
 145 150 155 160  
 Leu Lys Glu Phe Ala Asn Ile Ile Gln Asp Ile Asn Lys Leu Ala Ser  
 165 170 175  
 Val Ala Ser Ile Phe Asn Ser Phe Ser Ala Ile Gly Gly Ala Leu Asp  
 180 185 190  
 Ile Val Ser Asp His Leu Tyr Phe Lys Lys Asp Asn Leu Asp Lys Leu  
 195 200 205  
 Asp Ile Ala Asp Leu Glu Ile Leu Lys Asn Ser Phe Glu Gln Ile Leu  
 210 215 220  
 Tyr Ile Lys Gly Ser Val Ala Gly Lys Ala Lys Lys Leu Leu Leu Asp  
 225 230 235 240  
 Tyr Lys Asn Leu Lys Thr Asp Ile Asn Lys Leu Lys Ser Tyr Ser Asn  
 245 250 255  
 Glu Leu Val Asn Gly Ile Lys Gln Gln Ala Leu Glu Ala Glu Asn Leu  
 260 265 270  
 Glu Glu Leu Ile Val Ser Lys Tyr Lys Leu  
 275 280

<210> 613  
 <211> 828  
 <212> DNA  
 <213> Homo sapiens

<400> 613  
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 atatttgttt ttctattttt aaatgcttgt tatccagttg catctaataa aatagaatta 120  
 aaacctaata cagaacaag cttaaataca gaagaagtc caaatcaaga agcaaaactac 180  
 aaagaagaaa agaagcaaa agaagaaggc attaataaaa aaacagaaaa cacgctgctt 240  
 aatgatttaa gaaatttaaat agaaacagct aaaaaagata atgataaata tacacaaaag 300  
 ttaaaagaag aatcctcaag ccaatacggg atactggctt tcaaagattt gttctggcta 360  
 gatggaacaa atgaacaatt gtccgcaaat accgaaagat ctaaaagccta tagaaaacga 420  
 gcttatagca tcttaaatac tattaatgac gcttccttaa agaatttttc agaaattgta 480  
 atggcatcag gacaaacaca gggcatattt aataccctta actcacttgg gggtaatattt 540  
 gaaaagatag ttaattggtt gtatcccaaa aaagacaatt tggaaaaatt agagacttca 600  
 gttttaaaaa agcttaaaga ttctttggaa aatttttttag agataaaaaa aatcgcccta 660  
 gaaatgatgc acaagctctt attagactat caaaataata caaatcgat acaaacagat 720  
 aaaaatgaac ttaagtctta tgcagacaca cttttcaatc aaatgacaaa aaaacccgaa 780  
 gaagcactaa agctaaaaaa taccatatgc tcaatagagg acctttaa 828

<210> 614  
 <211> 706  
 <212> DNA  
 <213> Homo sapiens

<400> 614  
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 tcaagaagaa gtcccaaatc agaagcaaaa ctacaaagaa gaaaaagaag caaaagaaga 120  
 aggcattaat aaaaaaacag aaaacacgct gcttaatgat ttaagaaatt taatagaaac 180  
 agctaaaaaa gataatgata aatatacaca aaagttaaaa gaagaatcct caagccaata 240  
 cggaatactg gctttcaaag atttgttctg gctagatgga acaaatgaac aattgtccgc 300  
 aaataccgaa agatctaaag cctatagaaa acgagcttat agcatcttaa atactattaa 360



tgacgcttcc ttaaagaatt tttcagaaat tgtaatggca tcaggacaaa cacagggcat 420  
 atttaatacc cttaactcac ttgggggtaa ttttgaaaag atagttaatt gtttgtatcc 480  
 caaaaaagac aatttggaag aattagagac ttcagtttta aaaaagctta aagattcttt 540  
 ggaaaatttt ttagagataa aaaaaatcgc ctcagaaatg atgcacaagc tcttattaga 600  
 ctatcaaaat aatacaaatc gtatacaaac agataaaaat gaacttaagt cttatgcaga 660  
 cacacttttc aatcaaatga caaaaaaacc cgaagaagca ctaaag 706

<210> 615  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens

<400> 615

Arg Lys Ile Lys Ser Tyr Ser Arg Arg Val Phe Met Lys His Tyr Ile  
 1 5 10 15

Ile Val His Ile Phe Val Phe Leu Phe Leu Asn Ala Cys Tyr Pro Val  
 20 25 30

Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu Thr Ser Leu Asn  
 35 40 45

Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys Glu Glu Lys Glu  
 50 55 60

Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn Thr Leu Leu Asn  
 65 70 75 80

Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp Asn Asp Lys Tyr  
 85 90 95

Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr Gly Ile Leu Ala  
 100 105 110

Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu Gln Leu Ser Ala  
 115 120 125

Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala Tyr Ser Ile Leu  
 130 135 140

Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser Glu Ile Val Met  
 145 150 155 160

Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu Asn Ser Leu Gly  
 165 170 175

Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro Lys Lys Asp Asn  
 180 185 190

Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu Lys Asp Ser Leu  
 195 200 205

Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu Met Met His Lys  
 210 215 220

Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile Gln Thr Asp Lys  
 225 230 235 240

Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn Gln Met Thr Lys  
 245 250 255

Lys Pro Glu Glu Ala Leu Lys Leu Lys Asn Thr Ile Cys Ser Ile Glu  
 260 265 270

Asp Leu

<210> 616  
 <211> 235  
 <212> PRT  
 <213> Homo sapiens

<400> 616

Cys Tyr Pro Val Ala Ser Asn Lys Ile Glu Leu Lys Pro Lys Thr Glu  
 1 5 10 15

Thr Ser Leu Asn Gln Glu Glu Val Pro Asn Gln Glu Ala Asn Tyr Lys  
 20 25 30

Glu Glu Lys Glu Ala Lys Glu Glu Gly Ile Asn Lys Lys Thr Glu Asn  
 35 40 45

Thr Leu Leu Asn Asp Leu Arg Asn Leu Ile Glu Thr Ala Lys Lys Asp  
 50 55 60

Asn Asp Lys Tyr Thr Gln Lys Leu Lys Glu Glu Ser Ser Ser Gln Tyr  
 65 70 75 80

Gly Ile Leu Ala Phe Lys Asp Leu Phe Trp Leu Asp Gly Thr Asn Glu  
 85 90 95

Gln Leu Ser Ala Asn Thr Glu Arg Ser Lys Ala Tyr Arg Lys Arg Ala  
 100 105 110

Tyr Ser Ile Leu Asn Thr Ile Asn Asp Ala Ser Leu Lys Asn Phe Ser  
 115 120 125

Glu Ile Val Met Ala Ser Gly Gln Thr Gln Gly Ile Phe Asn Thr Leu  
 130 135 140

Asn Ser Leu Gly Gly Asn Phe Glu Lys Ile Val Asn Cys Leu Tyr Pro  
 145 150 155 160

Lys Lys Asp Asn Leu Glu Lys Leu Glu Thr Ser Val Leu Lys Lys Leu  
 165 170 175

Lys Asp Ser Leu Glu Asn Phe Leu Glu Ile Lys Lys Ile Ala Ser Glu  
 180 185 190

Met Met His Lys Leu Leu Leu Asp Tyr Gln Asn Asn Thr Asn Arg Ile  
 195 200 205

Gln Thr Asp Lys Asn Glu Leu Lys Ser Tyr Ala Asp Thr Leu Phe Asn  
 210 215 220

Gln Met Thr Lys Lys Pro Glu Glu Ala Leu Lys  
 225 230 235

<210> 617  
 <211> 696

<212> DNA

<213> Homo sapiens

<400> 617

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taatctatac taattgagga gaatattttt atgaaaaaca acataatttt atgcatgtgt 60
gtttttttac ttttaaatag ctgcaccgct aaccatgaag ctgaagcgaa aataaaaaaa 120
catgttgata aaacaaaaaa cgaatatatt aatgaaataa aaaatttaat agcaacaacc 180
aaagaaatca tcgaaaaaacg aaaattgcta caagctaaac cagtagatca aaaccccgt 240
gatgatacaa acaataagaa agttttcgag atagataaaa gagctttcga ttttataaat 300
agttttttta cagatgatga atttaataaa tttgtaacaa ttttcataa accaactacta 360
aaatcacccg gaaaagtatt aaatagcata gcaattctag agctaaacat agagcaggta 420
attaatcacc tagactcaaa aaatgagacc ttaaataaag caagctcttt agatttggaa 480
aagatcaaaa attcccttga acagctgttc tctataagga attttttttc aacaatcata 540
aaaagggctc tattgatca tcaaaacaat gaaaattcta taaaaccaga tgattctaaa 600
tcaggaacct atttcgatac gatatacgat cagtttaatg aaaaaataa agagggttaga 660
aatctgaaaa aaaccatatt atcactgccc aattaa 696
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<210> 618

<211> 592

<212> DNA

<213> Homo sapiens

<400> 618

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cgaatatatt aatgaaataa aaaatttaat agcaacaacc aaagaaatca tcgaaaaaacg 120
aaaattgcta caagctaaac cagtagatca aaaccccgt gatgatacaa acaataagaa 180
agttttcgag atagataaaa gagctttcga ttttataaat agttttttta cagatgatga 240
atttaataaa tttgtaacaa ttttcataa accaactacta aaatcacccg gaaaagtatt 300
aaatagcata gcaattctag agctaaacat agagcaggta attaatcacc tagactcaaa 360
aaatgagacc ttaaataaag caagctcttt agatttggaa aagatcaaaa attcccttga 420
acagctgttc tctataagga attttttttc aacaatcata aaaagggctc tattgatca 480
tcaaaacaat gaaaattcta taaaaccaga tgattctaaa tcaggaacct atttcgatac 540
gatatacgat cagtttaatg aaaaaataa agagggttaga aatctgaaaa aa 592
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<210> 619

<211> 230

<212> PRT

<213> Homo sapiens

<400> 619

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Ser Ile Leu Ile Glu Glu Asn Ile Phe Met Lys Asn Asn Ile Ile Leu
  1             5             10             15

Cys Met Cys Val Phe Leu Leu Leu Asn Ser Cys Thr Ala Asn His Glu
      20             25             30

Ala Glu Ala Lys Ile Lys Lys His Val Asp Lys Thr Lys Asn Glu Tyr
      35             40             45

Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr Thr Lys Glu Ile Ile Glu
      50             55             60

Lys Arg Lys Leu Leu Gln Ala Lys Pro Val Asp Gln Asn Pro Val Asp
      65             70             75             80

Asp Thr Asn Asn Lys Lys Val Phe Glu Ile Asp Lys Arg Ala Phe Asp
      85             90             95

Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu Phe Asn Lys Phe Val Thr
      100            105            110
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Ile Phe His Lys Pro Thr Leu Lys Ser Pro Gly Lys Val Leu Asn Ser  
 115 120 125

Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln Val Ile Asn His Leu Asp  
 130 135 140

Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser Ser Leu Asp Leu Glu Lys  
 145 150 155 160

Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser Ile Arg Asn Phe Phe Ser  
 165 170 175

Thr Ile Ile Lys Arg Val Leu Leu Asp His Gln Asn Asn Glu Asn Ser  
 180 185 190

Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr Tyr Phe Asp Thr Ile Tyr  
 195 200 205

Asp Gln Phe Asn Glu Lys Asn Lys Glu Val Arg Asn Leu Lys Lys Thr  
 210 215 220

Ile Leu Ser Leu Pro Asn  
 225 230

<210> 620

<211> 197

<212> PRT

<213> Homo sapiens

<400> 620

Cys Thr Ala Asn His Glu Ala Glu Ala Lys Ile Lys Lys His Val Asp  
 1 5 10 15

Lys Thr Lys Asn Glu Tyr Ile Asn Glu Ile Lys Asn Leu Ile Ala Thr  
 20 25 30

Thr Lys Glu Ile Ile Glu Lys Arg Lys Leu Leu Gln Ala Lys Pro Val  
 35 40 45

Asp Gln Asn Pro Val Asp Asp Thr Asn Asn Lys Lys Val Phe Glu Ile  
 50 55 60

Asp Lys Arg Ala Phe Asp Phe Ile Asn Ser Phe Leu Thr Asp Asp Glu  
 65 70 75 80

Phe Asn Lys Phe Val Thr Ile Phe His Lys Pro Thr Leu Lys Ser Pro  
 85 90 95

Gly Lys Val Leu Asn Ser Ile Ala Ile Leu Glu Leu Asn Ile Glu Gln  
 100 105 110

Val Ile Asn His Leu Asp Ser Lys Asn Glu Thr Leu Asn Lys Ala Ser  
 115 120 125

Ser Leu Asp Leu Glu Lys Ile Lys Asn Ser Leu Glu Gln Leu Phe Ser  
 130 135 140

Ile Arg Asn Phe Phe Ser Thr Ile Ile Lys Arg Val Leu Leu Asp His  
 145 150 155 160

Gln Asn Asn Glu Asn Ser Ile Lys Pro Asp Asp Ser Lys Ser Gly Thr  
 165 170 175

Tyr Phe Asp Thr Ile Tyr Asp Gln Phe Asn Glu Lys Asn Lys Glu Val  
 180 185 190

Arg Asn Leu Lys Lys  
 195

<210> 621  
 <211> 588  
 <212> DNA  
 <213> Homo sapiens

<400> 621  
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 gcttgtagta cagattttta tactgatcaa aaaggcatta aataccgcc taccgaaaaa 120  
 tcaaagccca aaactgaaga ctctaagcaa aaagaattaa agcctaaaa acgaaaaaga 180  
 ctaaagaaaa aacaacaact aaaaaataaa ctacttaatg atttaaaaaa ttcaatagaa 240  
 acagctaata agcataaaga aaagtataaa aaaagaatga aagaagaacc cgaagatcaa 300  
 tacggggtag aggttttcaa aggatcgaat tggggggccgg ggactgaaga tgtatctgcc 360  
 aacaccgaaa gatctataag atttagaaga catacttata ctattttaag cacgctgagt 420  
 cttcatgaat taaaggaatt ctcaaattatt gttacaaatg aaaataaact ggtgccagta 480  
 gtagatatgt ttaatttctt tagctctatt gggacagctc ttgatataac aaccgatagc 540  
 ttatatccca aaaagacaat ctggacaaac cagatctgtc ggatttag 588

<210> 622  
 <211> 520  
 <212> DNA  
 <213> Homo sapiens

<400> 622  
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 aaagcccaaa actgaagact ctaagcaaaa agaattaaag cctaaaacag aaaaagaact 120  
 aaagaaaaaa caacaactaa aaaataaact acttaatgat ttaaaaaatt caatagaaac 180  
 agctaataag cataaagaaa agtataaaaa aagaatgaaa gaagaaccg aagatcaata 240  
 cggggtagac gctttcaaag gatcgaattg gggggccggg actgaagatg tatctgccaa 300  
 caccgaaaga tctataagat ttagaagaca tacttatact attttaagca cgctgagtct 360  
 tcatgaatta aaggaattct caaatattgt tacaaatgaa aataaactgg tgccagtagt 420  
 agatatgttt aatttcttta gctctatttg gacagctctt gatataacaa ccgatagctt 480  
 atatcccaaa aagacaatct ggacaaacca gatctgtcgg 520

<210> 623  
 <211> 194  
 <212> PRT  
 <213> Homo sapiens

<400> 623  
 Arg Arg Val Leu Met Lys Cys His Ile Ile Ala Thr Ile Phe Val Phe  
 1 5 10 15

Leu Phe Leu Ala Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile  
 20 25 30

Lys Tyr Pro Pro Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys  
 35 40 45

Gln Lys Glu Leu Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln  
 50 55 60

Gln Leu Lys Asn Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr  
 65 70 75 80  
 Ala Asn Lys His Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro  
 85 90 95  
 Glu Asp Gln Tyr Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro  
 100 105 110  
 Gly Thr Glu Asp Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg  
 115 120 125  
 Arg His Thr Tyr Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys  
 130 135 140  
 Glu Phe Ser Asn Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val  
 145 150 155 160  
 Asp Met Phe Asn Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr  
 165 170 175  
 Thr Asp Ser Leu Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys  
 180 185 190

Arg Ile

<210> 624  
 <211> 173  
 <212> PRT  
 <213> Homo sapiens

<400> 624

Cys Ser Thr Asp Phe Asn Thr Asp Gln Lys Gly Ile Lys Tyr Pro Pro  
 1 5 10 15  
 Thr Glu Lys Ser Lys Pro Lys Thr Glu Asp Ser Lys Gln Lys Glu Leu  
 20 25 30  
 Lys Pro Lys Thr Glu Lys Glu Leu Lys Lys Lys Gln Gln Leu Lys Asn  
 35 40 45  
 Lys Leu Leu Asn Asp Leu Lys Asn Ser Ile Glu Thr Ala Asn Lys His  
 50 55 60  
 Lys Glu Lys Tyr Lys Lys Arg Met Lys Glu Glu Pro Glu Asp Gln Tyr  
 65 70 75 80  
 Gly Val Gln Ala Phe Lys Gly Ser Asn Trp Gly Pro Gly Thr Glu Asp  
 85 90 95  
 Val Ser Ala Asn Thr Glu Arg Ser Ile Arg Phe Arg Arg His Thr Tyr  
 100 105 110  
 Thr Ile Leu Ser Thr Leu Ser Leu His Glu Leu Lys Glu Phe Ser Asn  
 115 120 125  
 Ile Val Thr Asn Glu Asn Lys Leu Val Pro Val Val Asp Met Phe Asn  
 130 135 140

Phe Phe Ser Ser Ile Gly Thr Ala Leu Asp Ile Thr Thr Asp Ser Leu  
 145 150 155 160

Tyr Pro Lys Lys Thr Ile Trp Thr Asn Gln Ile Cys Arg  
 165 170

<210> 625  
 <211> 690  
 <212> DNA  
 <213> Homo sapiens

<400> 625  
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 ctgataagtt cttgtaagaa tgatgtaact agtaaagatt tagaaggggc ggtgaaagat 120  
 ttagaaagtt cagaacaaaa tgtaaaaaaa acagaacaag agataaaaaa acaagttgaa 180  
 ggatttttag aaatttttaga gacaaaagat ttaaacacat tagatacaaa agaaattgaa 240  
 aaacaaattc aagaattaaa gaataagata gaaaaattag actctaaaaa aacttctatt 300  
 gaaacatatt ctgggtatga agaaaaataa aacaaaataa aagaaaaatt aaacggaaaa 360  
 ggacttgaag ataaattaaa tgaactttca gagagcttaa aaaagaaaaa agaggagaga 420  
 aaaaaagctt tacaagaggc taaaaagaaa tttgaagagt ataaaaacca agctgaatct 480  
 gcaactggag taacgcatgg ttctcaagtc caaagacaag gtggtgttggtg attacaagct 540  
 tggcagtgtg ctaatagttt ggggtttaaa aatatgacta gtggttaataa tactagcgat 600  
 atgaccaatg aagttataac taattcgctt aaaaagattg aagaagaact taaaaatatt 660  
 ggagaaactg tagaaggtaa aaaagaataa 690

<210> 626  
 <211> 616  
 <212> DNA  
 <213> Homo sapiens

<400> 626  
 ttgtaagaat gatgtaacta gtaaagattt agaaggggag gtgaaagatt tagaaagttc 60  
 agaacaaaat gtaaaaaaaa cagaacaaga gataaaaaaa caagttgaag gatttttaga 120  
 aatttttagag acaaaaagatt taaacacatt agatacaaaa gaaattgaaa aacaaattca 180  
 agaattaaag aataagatag aaaaattaga ctctaaaaaa acttctattg aaacatatct 240  
 tgggtatgaa gaaaaaataa acaaaaataa agaaaaatta aacggaaaag gacttgaaga 300  
 taaattaaat gaactttcag agagctttaa aaagaaaaaa gaggagagaa aaaaagcttt 360  
 acaagaggct aaaaagaaat ttgaagagta taaaaaccaa gctgaatctg caactggagt 420  
 aacgcatggt tctcaagtcc aaagacaagg tgggtgttgga ttacaagctt ggcagtgtgc 480  
 taatagtttg gggtttaaaa atatgactag tggtaataat actagcgata tgaccaatga 540  
 agttataact aattcgctta aaaagattga agaagaactt aaaaatattg gagaaactgt 600  
 agaaggtaaa aaagaa 616

<210> 627  
 <211> 228  
 <212> PRT  
 <213> Homo sapiens

<400> 627  
 Glu Thr Ile Phe Met Asn Lys Lys Ile Lys Met Phe Ile Ile Cys Ala  
 1 5 10 15

Ile Phe Met Leu Ile Ser Ser Cys Lys Asn Asp Val Thr Ser Lys Asp  
 20 25 30

Leu Glu Gly Ala Val Lys Asp Leu Glu Ser Ser Glu Gln Asn Val Lys  
 35 40 45

Lys Thr Glu Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile

50                      55                      60  
 Leu Glu Thr Lys Asp Leu Asn Thr Leu Asp Thr Lys Glu Ile Glu Lys  
 65                      70                      75                      80  
 Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys  
                     85                      90                      95  
 Thr Ser Ile Glu Thr Tyr Ser Gly Tyr Glu Glu Lys Ile Asn Lys Ile  
                     100                      105                      110  
 Lys Glu Lys Leu Asn Gly Lys Gly Leu Glu Asp Lys Leu Asn Glu Leu  
                     115                      120                      125  
 Ser Glu Ser Leu Lys Lys Lys Lys Glu Glu Arg Lys Lys Ala Leu Gln  
                     130                      135                      140  
 Glu Ala Lys Lys Lys Phe Glu Glu Tyr Lys Asn Gln Ala Glu Ser Ala  
 145                      150                      155                      160  
 Thr Gly Val Thr His Gly Ser Gln Val Gln Arg Gln Gly Gly Val Gly  
                     165                      170                      175  
 Leu Gln Ala Trp Gln Cys Ala Asn Ser Leu Gly Phe Lys Asn Met Thr  
                     180                      185                      190  
 Ser Gly Asn Asn Thr Ser Asp Met Thr Asn Glu Val Ile Thr Asn Ser  
                     195                      200                      205  
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 Gly Lys Lys Glu  
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 <213> Homo sapiens

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                     20                      25                      30  
 Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr Lys Asp Leu Asn  
                     35                      40                      45  
 Thr Leu Asp Thr Lys Glu Ile Glu Lys Gln Ile Gln Glu Leu Lys Asn  
                     50                      55                      60  
 Lys Ile Glu Lys Leu Asp Ser Lys Lys Thr Ser Ile Glu Thr Tyr Ser  
                     65                      70                      75                      80  
 Gly Tyr Glu Glu Lys Ile Asn Lys Ile Lys Glu Lys Leu Asn Gly Lys  
                     85                      90                      95  
 Gly Leu Glu Asp Lys Leu Asn Glu Leu Ser Glu Ser Leu Lys Lys Lys



100	105	110
Lys Glu Glu Arg Lys Lys Ala Leu Gln Glu Ala Lys Lys Lys Phe Glu		
115	120	125
Glu Tyr Lys Asn Gln Ala Glu Ser Ala Thr Gly Val Thr His Gly Ser		
130	135	140
Gln Val Gln Arg Gln Gly Gly Val Gly Leu Gln Ala Trp Gln Cys Ala		
145	150	155
Asn Ser Leu Gly Phe Lys Asn Met Thr Ser Gly Asn Asn Thr Ser Asp		
165	170	175
Met Thr Asn Glu Val Ile Thr Asn Ser Leu Lys Lys Ile Glu Glu Glu		
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Leu Lys Asn Ile Gly Glu Thr Val Glu Gly Lys Lys Glu		
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 aaagagggca atgaaaaggc aggggaagtg tttgggaagg ctggtgctaa tgctcatggg 240  
 gacagtggag ctgctagcaa ggcggctggg gctgttagtg ctgttagtgg ggagcagata 300  
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 gggatgaaga aggatgatca gattgctgct gctattgctt tgagggggat ggctaaggat 480  
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 gctgcaattg gagaagttgt ggataatgct ggtgctgcga aggctgctga taaggatagt 600  
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 aataatgaga aagggaaggc tgagggggct tcaagtggta ctgatgcaat tggagaagtt 3180  
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aagttgtttg ggaaggctgg tgctggtgct ggtgctaata gggacagtga ggctgctagc 3960
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<213> Homo sapiens

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tcagattgct gctgctattg ctttgagggg gatggctaag gatggaaagt ttgctgtgaa 180
gggtaataat gagaaagaga aggctgaggg ggctattaaa gaagttagcg agttgttgga 240
taagctggta acagctgtaa agacagctga gggggcttca agtgggtactg atgcaattgg 300
agaagttgtg gataatgntg cnaaggntgc tgataaggcg agtgtgacgg ggattgctaa 360
ggggataaag gagattgttg aagctgctng ggggagtgaa aagctgaaag ttgctgctgc 420
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tggggacagt gaggctgcta gcaag 505

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<210> 631
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<213> Homo sapiens

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Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala
          35                      40                      45
Arg Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Lys Glu Gly Asn Glu
      50                      55                      60
Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asn Ala His Gly Asp
  65                      70                      75                      80

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Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
 85 90 95  
 Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Asp Ala Ala Glu Gln  
 100 105 110  
 Asp Gly Lys Lys Pro Ala Asp Ala Thr Asn Pro Ile Ala Ala Ile  
 115 120 125  
 Gly Asn Lys Asp Glu Asp Ala Asp Phe Gly Asp Gly Met Lys Lys Asp  
 130 135 140  
 Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly  
 145 150 155 160  
 Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile  
 165 170 175  
 Lys Gly Ala Ala Ala Ile Gly Glu Val Val Asp Asn Ala Gly Ala Ala  
 180 185 190  
 Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys Gly Ile Lys  
 195 200 205  
 Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Ala Ala Ala  
 210 215 220  
 Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe Gly Lys Val  
 225 230 235 240  
 Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala  
 245 250 255  
 Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala  
 260 265 270  
 Ala Gly Glu Ala Glu Gln Asp Gly Glu Lys Pro Glu Asp Ala Lys Asn  
 275 280 285  
 Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Gly Asp Gly Ala Glu Phe  
 290 295 300  
 Asp Gln Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala  
 305 310 315 320  
 Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn  
 325 330 335  
 Glu Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu  
 340 345 350  
 Asp Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly  
 355 360 365  
 Thr Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp  
 370 375 380  
 Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu  
 385 390 395 400

Ala Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa  
 405 410 415  
 Asn Asn Lys Glu Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asp Ala  
 420 425 430  
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 435 440 445  
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 450 455 460  
 Gly Ala Ala Asp Gln Asp Gly Glu Lys Pro Gly Asp Ala Lys Asn Pro  
 465 470 475 480  
 Ile Ala Ala Ala Ile Gly Lys Gly Asn Ala Asp Asp Gly Ala Asp Phe  
 485 490 495  
 Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
 500 505 510  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Lys Asp Glu Lys  
 515 520 525  
 Gly Lys Ala Glu Gly Ala Ile Lys Gly Ala Ser Glu Leu Leu Asp Lys  
 530 535 540  
 Leu Val Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala  
 545 550 555 560  
 Ala Ile Gly Glu Val Val Asp Asn Ala Ala Lys Ala Ala Asp Lys Asp  
 565 570 575  
 Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala  
 580 585 590  
 Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Lys Gly Glu Asn Asn  
 595 600 605  
 Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala Asn Ala His Gly  
 610 615 620  
 Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser  
 625 630 635 640  
 Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Gly Glu Ala Ala  
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 Gly Asp Gln Glu Gly Lys Lys Pro Glu Glu Ala Lys Asn Pro Ile Ala  
 660 665 670  
 Ala Ala Ile Gly Asp Lys Asp Gly Asp Ala Glu Phe Asn Gln Asp Gly  
 675 680 685  
 Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met  
 690 695 700  
 Ala Lys Asp Gly Lys Phe Ala Val Lys Asp Gly Gly Glu Lys Glu Lys  
 705 710 715 720

Ala Glu Gly Ala Ile Lys Gly Val Ser Glu Leu Leu Asp Lys Leu Val  
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 Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala Ala Ile  
 740 745 750  
 Gly Glu Val Val Ala Asp Ala Ala Lys Val Ala Asp Lys Ala Ser Val  
 755 760 765  
 Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Asp  
 770 775 780  
 Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
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 Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Ala Ala Gly Ala Ala  
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 Glu Gln Asp Gly Glu Lys Pro Ala Glu Ala Lys Asn Pro Ile Ala Ala  
 820 825 830  
 Ala Ile Gly Lys Gly Asp Gly Asp Ala Asp Phe Gly Glu Asp Gly Met  
 835 840 845  
 Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu Arg Gly Met Ala  
 850 855 860  
 Lys Asp Gly Lys Phe Ala Val Lys Asn Asp Glu Lys Gly Lys Ala Glu  
 865 870 875 880  
 Gly Ala Ile Lys Gly Ala Ala Ala Ile Gly Glu Val Val Asp Asn Ala  
 885 890 895  
 Gly Ala Ala Lys Ala Ala Asp Lys Asp Ser Val Lys Gly Ile Ala Lys  
 900 905 910  
 Gly Ile Lys Glu Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys  
 915 920 925  
 Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys Lys Ala Gly Lys Leu Phe  
 930 935 940  
 Gly Lys Val Asp Gly Ala Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala  
 945 950 955 960  
 Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile  
 965 970 975  
 Val Lys Ala Ala Asp Ala Ala Glu Gln Asp Gly Lys Lys Pro Ala Asp  
 980 985 990  
 Ala Thr Asn Pro Ile Ala Ala Ala Ile Gly Asn Lys Asp Glu Asp Ala  
 995 1000 1005  
 Asp Phe Gly Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile  
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 Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn  
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Asn Glu Lys Gly Lys Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile  
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 Gly Glu Val Val Asp Asn Asp Ala Lys Ala Ala Asp Lys Ala Ser Val  
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 Ser Glu Lys Leu Lys Ala Val Ala Ala Ala Thr Arg Glu Asn Asn Lys  
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 Glu Ala Gly Lys Leu Phe Gly Lys Val Asp Asp Ala His Ala Gly Asp  
 1105 1110 1115 1120  
 Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val Ser Gly  
 1125 1130 1135  
 Glu Gln Ile Leu Ser Ala Ile Val Thr Ala Ala Ala Ala Gly Glu Gln  
 1140 1145 1150  
 Asp Gly Glu Lys Pro Ala Glu Ala Thr Asn Pro Ile Ala Ala Ala Ile  
 1155 1160 1165  
 Gly Lys Gly Asn Glu Asp Gly Ala Asp Phe Gly Lys Asp Glu Met Lys  
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 Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Asp Ala Ile Gly  
 1235 1240 1245  
 Glu Val Val Ala Asn Ala Gly Ala Ala Lys Ala Ala Asp Lys Ala Ser  
 1250 1255 1260  
 Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala Ala Gly  
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 Gly Ser Lys Lys Leu Lys Ala Ala Ala Ala Glu Gly Glu Asn Asn Lys  
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 35 40 45  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Gly Asn Asn Glu  
 50 55 60  
 Lys Glu Lys Ala Glu Gly Ala Ile Lys Glu Val Ser Glu Leu Leu Asp  
 65 70 75 80  
 Lys Leu Val Thr Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr  
 85 90 95  
 Asp Ala Ile Gly Glu Val Val Asp Asn Xaa Ala Lys Xaa Ala Asp Lys  
 100 105 110  
 Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu Ala  
 115 120 125  
 Ala Xaa Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Xaa Xaa Xaa Asn  
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Gly Asp Ser Glu Ala Ala Ser Lys  
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atagaacagt ttgcattagc attaaaagat catcaagaaa ataaaaatac tactaataact 180
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gaagaagaaa ttaaagctaa cttagatgaa tttgcacaag aagagtatga gcaaacatct 540
ctttcagaaa ttaaaaaatgc cagcgaatgt gttaatcatg ctaatcctga aaacaaatta 600
aacaatacac tccttgagtt tgaaaaagat tatgaaactt tatcaaactt gttattctct 660
aatttagacg catctccttt gaatagaaaa ataaagacta ttatgcctaa attacaagaa 720
atgcgttctt ttatggagca agcaactaat tcttgggtat ctgctaaagg catgctagat 780
gaggctaagg ataaactagc agaatctatt tataaaagac tatacaatgg caattcatac 840
cggttcgggtg gcagttttta cggacgtgat atgcaacatg caaaaaattt agcatacaga 900
gctatagact ttgcttctgc atgcattgaa tatacacaaa aagctattga ttatcttcaa 960
cagggaattt cttgcaaaaa agaaatagaa aatatattca agctttta 1008
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<210> 634  
<211> 859  
<212> DNA  
<213> Homo sapiens

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<400> 634
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agtaggttct aatcaacata tgtcagatga tcctgggtgct aataataaag aatccctacc 180
aaattcaagt ccagcaataa taaaaaatga ctgcgatgct caaaataatg taaagatgga 240
agaaaataaa tcagctactc cacaacatga tccaattgaa caaagtaatt taaaaaatag 300
ccttactaca acaagtaaaa ctctgctat tccttcagaa gaagaaatta aagctaactt 360
agatgaattt gcacaagaag agtatgagca aacatctctt tcagaaatta aaaatgccac 420
gcaaatgtgt aatcatgcta atcctgaaaa caaattaaac aatacactcc ttgagtttga 480
aaaagattat gaaactttat caaacttggt attctctaatt ttagacgcac ctcttttgaa 540
tagaaaaata aagactatta tgccataaatt acaagaaatg cgttctttta tggagcaagc 600
aactaattct tgggtatctg ctaaaggcat gctagatgag gctaaggata aactagcaga 660
atctatttat aaaagactat acaatggcaa ttcataccgg ttcggtggca gttttaacgg 720
acgtgatatg caacatgcaa aaaatttagc atacagagct atagactttg cttctgcatg 780
cattgaatat acacaaaaag ctattgatta tcttcaacag ggaaattctt gcaaaaaaga 840
aatagaaaat atattcaag 859
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<210> 635  
<211> 334  
<212> PRT  
<213> Homo sapiens

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<400> 635
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Ile Pro Asn Leu Val Phe Ser Ser Leu Phe Leu Phe Glu Ser Cys Ser

20					25					30					
Gly	Phe	Leu	Ser	Lys	Lys	Ser	Ile	Glu	Gln	Phe	Ala	Leu	Ala	Leu	Lys
35				40				45							
Asp	His	Gln	Glu	Asn	Lys	Asn	Thr	Thr	Asn	Thr	Ser	Val	Asp	Lys	Asn
50				55				60							
Ser	Lys	Glu	Ile	Glu	Ser	Pro	Lys	Asp	Val	Thr	Ser	Ser	Asn	Lys	Lys
65				70				75		80					
Thr	Tyr	Asp	Pro	Ile	Leu	Gln	Val	Gly	Ser	Asn	Gln	His	Met	Ser	Asp
				85				90				95			
Asp	Pro	Gly	Ala	Asn	Asn	Lys	Glu	Ser	Leu	Pro	Asn	Ser	Ser	Pro	Ala
			100				105				110				
Ile	Ile	Gln	Asn	Asp	Ser	His	Ala	Gln	Asn	Asn	Val	Lys	Met	Glu	Glu
115						120				125					
Asn	Lys	Ser	Ala	Thr	Pro	Gln	His	Asp	Pro	Ile	Glu	Gln	Ser	Asn	Phe
130						135				140					
Lys	Asn	Ser	Leu	Thr	Thr	Thr	Ser	Lys	Thr	Pro	Ala	Ile	Pro	Ser	Glu
145				150				155		160					
Glu	Glu	Ile	Lys	Ala	Asn	Leu	Asp	Glu	Phe	Ala	Gln	Glu	Glu	Tyr	Glu
				165				170				175			
Gln	Thr	Ser	Leu	Ser	Glu	Ile	Lys	Asn	Ala	Thr	Gln	Ile	Val	Asn	His
				180				185				190			
Ala	Asn	Pro	Glu	Asn	Lys	Leu	Asn	Asn	Thr	Leu	Leu	Glu	Phe	Glu	Lys
195						200				205					
Asp	Tyr	Glu	Thr	Leu	Ser	Asn	Leu	Leu	Phe	Ser	Asn	Leu	Asp	Ala	Ser
210				215				220							
Pro	Leu	Asn	Arg	Lys	Ile	Lys	Thr	Ile	Met	Pro	Lys	Leu	Gln	Glu	Met
225				230				235		240					
Arg	Ser	Phe	Met	Glu	Gln	Ala	Thr	Asn	Ser	Trp	Val	Ser	Ala	Lys	Gly
				245				250		255					
Met	Leu	Asp	Glu	Ala	Lys	Asp	Lys	Leu	Ala	Glu	Ser	Ile	Tyr	Lys	Arg
260				265				270							
Leu	Tyr	Asn	Gly	Asn	Ser	Tyr	Arg	Phe	Gly	Gly	Ser	Phe	Asn	Gly	Arg
275				280				285							
Asp	Met	Gln	His	Ala	Lys	Asn	Leu	Ala	Tyr	Arg	Ala	Ile	Asp	Phe	Ala
290				295		300									
Ser	Ala	Cys	Ile	Glu	Tyr	Thr	Gln	Lys	Ala	Ile	Asp	Tyr	Leu	Gln	Gln
305				310		315		320							
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325				330											

<210> 636

<211> 286  
 <212> PRT  
 <213> Homo sapiens

<400> 636

Lys	Asp	His	Gln	Glu	Asn	Lys	Asn	Thr	Thr	Asn	Thr	Ser	Val	Asp	Lys
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Asn	Ser	Lys	Glu	Ile	Glu	Ser	Pro	Lys	Asp	Val	Thr	Ser	Ser	Asn	Lys
		20						25					30		
Lys	Thr	Tyr	Asp	Pro	Ile	Leu	Gln	Val	Gly	Ser	Asn	Gln	His	Met	Ser
		35					40					45			
Asp	Asp	Pro	Gly	Ala	Asn	Asn	Lys	Glu	Ser	Leu	Pro	Asn	Ser	Ser	Pro
	50					55					60				
Ala	Ile	Ile	Gln	Asn	Asp	Ser	His	Ala	Gln	Asn	Asn	Val	Lys	Met	Glu
65					70					75					80
Glu	Asn	Lys	Ser	Ala	Thr	Pro	Gln	His	Asp	Pro	Ile	Glu	Gln	Ser	Asn
				85					90					95	
Phe	Lys	Asn	Ser	Leu	Thr	Thr	Thr	Ser	Lys	Thr	Pro	Ala	Ile	Pro	Ser
			100					105					110		
Glu	Glu	Glu	Ile	Lys	Ala	Asn	Leu	Asp	Glu	Phe	Ala	Gln	Glu	Glu	Tyr
		115					120					125			
Glu	Gln	Thr	Ser	Leu	Ser	Glu	Ile	Lys	Asn	Ala	Thr	Gln	Ile	Val	Asn
		130					135				140				
His	Ala	Asn	Pro	Glu	Asn	Lys	Leu	Asn	Asn	Thr	Leu	Leu	Glu	Phe	Glu
145					150					155					160
Lys	Asp	Tyr	Glu	Thr	Leu	Ser	Asn	Leu	Leu	Phe	Ser	Asn	Leu	Asp	Ala
				165					170					175	
Ser	Pro	Leu	Asn	Arg	Lys	Ile	Lys	Thr	Ile	Met	Pro	Lys	Leu	Gln	Glu
			180					185					190		
Met	Arg	Ser	Phe	Met	Glu	Gln	Ala	Thr	Asn	Ser	Trp	Val	Ser	Ala	Lys
		195					200					205			
Gly	Met	Leu	Asp	Glu	Ala	Lys	Asp	Lys	Leu	Ala	Glu	Ser	Ile	Tyr	Lys
		210				215					220				
Arg	Leu	Tyr	Asn	Gly	Asn	Ser	Tyr	Arg	Phe	Gly	Gly	Ser	Phe	Asn	Gly
225					230					235					240
Arg	Asp	Met	Gln	His	Ala	Lys	Asn	Leu	Ala	Tyr	Arg	Ala	Ile	Asp	Phe
				245					250					255	
Ala	Ser	Ala	Cys	Ile	Glu	Tyr	Thr	Gln	Lys	Ala	Ile	Asp	Tyr	Leu	Gln
			260					265					270		
Gln	Gly	Asn	Ser	Cys	Lys	Lys	Glu	Ile	Glu	Asn	Ile	Phe	Lys		
		275					280					285			

<210> 637

<211> 630  
 <212> DNA  
 <213> Homo sapiens

<400> 637  
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 ctctcttgta acctatatga taatcttgca gacaacgctg agcaggttac agacatacta 120  
 gacaacaaca agtcttttaa tacttttagga agcagcaatg agagtagaag tcgcaggcct 180  
 agaagtacaa ataatgctta tatgaaacaa aacatagaca aaaatcattt agttgttgca 240  
 gatatgcaaa atgataatag tagcagcagt cttccccaac aagttaatag tgaatccagt 300  
 aaagctaatt aagatagtaa tattatgaag gaaattgaat cttctacaga agagtgcgct 360  
 agactaagaa aagatttaga aactataaaa caaatacttg ataatataga aagcttgctt 420  
 aatacagcta attcttattt agagaacgct agaaaagcac ctaaatactaa tcaagataat 480  
 caaaccttat tgcttagcct gcaccaagct attgctaagg ttaagagtag tcatacttct 540  
 tttatcattt gttataatga tgcatttaat tccctgggaa tagctgatac tgcctttaa 600  
 gatgcaaaga gaaaggcagt tgaggcataa 630

<210> 638  
 <211> 562  
 <212> DNA  
 <213> Homo sapiens

<400> 638  
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 caacaagtct ttttaactt taggaagcag caatgagagt agaagtcgca ggcctagaag 120  
 tacaataaat gcttatatga aacaaaacat agacaaaaat catttagttg ttgcagatat 180  
 gcaaaatgat aatagtagca gcagtcttcc ccaacaagtt aatagtgaat ccagtaaagc 240  
 taatgaagat agtaataatta tgaaggaaat tgaatcttct acagaagagt gcgctagact 300  
 aagaaaagat ttagaaacta taaaacaaat acttgataat atagaaagct tgcttaatac 360  
 agctaattct tatttagaga acgctagaaa agcacctaaa tctaatacaag ataatacaac 420  
 cttattgctt agcctgcacc aagctattgc taagggttaag agtagtcata cttcttttat 480  
 catttggtat aatgatgcat ttaattccct gggaatagct gatactgcct ttaaagatgc 540  
 aaagagaaag gcagttgagg ca 562

<210> 639  
 <211> 208  
 <212> PRT  
 <213> Homo sapiens

<400> 639  
 Met Asn Leu Ile Ala Lys Leu Phe Ile Leu Ser Thr Leu Val Ser Ile  
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 Pro Asn Ile Leu Ser Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala  
 20 25 30  
 Glu Gln Val Thr Asp Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu  
 35 40 45  
 Gly Ser Ser Asn Glu Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn  
 50 55 60  
 Ala Tyr Met Lys Gln Asn Ile Asp Lys Asn His Leu Val Val Ala Asp  
 65 70 75 80  
 Met Gln Asn Asp Asn Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser  
 85 90 95  
 Glu Ser Ser Lys Ala Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu  
 100 105 110

Ser Ser Thr Glu Glu Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile  
115 120 125

Lys Gln Ile Leu Asp Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser  
130 135 140

Tyr Leu Glu Asn Ala Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln  
145 150 155 160

Thr Leu Leu Leu Ser Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser  
165 170 175

His Thr Ser Phe Ile Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly  
180 185 190

Ile Ala Asp Thr Ala Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala  
195 200 205

<210> 640

<211> 187

<212> PRT

<213> Homo sapiens

<400> 640

Cys Asn Leu Tyr Asp Asn Leu Ala Asp Asn Ala Glu Gln Val Thr Asp  
1 5 10 15

Ile Leu Asp Asn Asn Lys Ser Phe Asn Thr Leu Gly Ser Ser Asn Glu  
20 25 30

Ser Arg Ser Arg Arg Pro Arg Ser Thr Asn Asn Ala Tyr Met Lys Gln  
35 40 45

Asn Ile Asp Lys Asn His Leu Val Val Ala Asp Met Gln Asn Asp Asn  
50 55 60

Ser Ser Ser Ser Leu Pro Gln Gln Val Asn Ser Glu Ser Ser Lys Ala  
65 70 75 80

Asn Glu Asp Ser Asn Ile Met Lys Glu Ile Glu Ser Ser Thr Glu Glu  
85 90 95

Cys Ala Arg Leu Arg Lys Asp Leu Glu Thr Ile Lys Gln Ile Leu Asp  
100 105 110

Asn Ile Glu Ser Leu Leu Asn Thr Ala Asn Ser Tyr Leu Glu Asn Ala  
115 120 125

Arg Lys Ala Pro Lys Ser Asn Gln Asp Asn Gln Thr Leu Leu Leu Ser  
130 135 140

Leu His Gln Ala Ile Ala Lys Val Lys Ser Ser His Thr Ser Phe Ile  
145 150 155 160

Ile Cys Tyr Asn Asp Ala Phe Asn Ser Leu Gly Ile Ala Asp Thr Ala  
165 170 175

Phe Lys Asp Ala Lys Arg Lys Ala Val Glu Ala  
180 185

<210> 641  
 <211> 1080  
 <212> DNA  
 <213> Homo sapiens

<400> 641  
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 gaaacttctt tttctgatac tgctagcaag attagtaagt cggaacagc tgcttcttca 180  
 gacaaacaag aaaaaaatac aagtgatgtt acaggtgacg ccaaaaagca tactagtagc 240  
 ccttacatgc ttgctgatgc ccttattgtt agtgatacta ctaatagaga tagagataag 300  
 caagaaaata aagataaatt aaatgaagaa gataaaaaaa agcttaaatgc ttttttttagc 360  
 acaactaaaa catatcaatc tagcctagat tccattttata acaaatatac aggctattat 420  
 aataccattg atacctatgg cagctgtgat acgtatcgca ttgagtgttt tagtgtagga 480  
 ccttctgaaa aacgtaaaca agctcttgct gatctagaga agttaaaact agacgaaaag 540  
 tacactcagc tttagcacaat gttaaagagt gctgtgccta gttattacaa aaaaaattta 600  
 gatgattcta ttgcacagta taagggaagcc ataaagcagg ctattgaagc tgaaagtaaa 660  
 atagagacag taaaagacta tgcaacagct caaagtgtcg ccgatgacga aaagaaaaga 720  
 aatatagata atttaaaaaat agttagagat gttcttctta ttattaaaaa aactattgag 780  
 aaagccagcc gatcttatgc tgatgctttt gctattgcaa catctagctt atcttgtagc 840  
 gaattttaagc aagctgttaa agagtttaaat gatgctgcta aacaatatgc taatggaaat 900  
 aaaggagaca atgctgtcaa tgttattgta ggcactattt ctagtatgcc ttatgtcaaa 960  
 tttaaagatg agtttgcaag agcaaaaatg tttgctcgta attatagagg agacgaggtta 1020  
 gacaagatga taagagctat cgacaagctg tgtgatgttt ataaaaaagt tgcgcttttag 1080

<210> 642  
 <211> 970  
 <212> DNA  
 <213> Homo sapiens

<400> 642  
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 tactgctagc aagattagta agtcgggaac agctgcttct tcagacaaac aagaaaaaaa 120  
 tacaagtgat gttacagggtg acgccaaaaa gcatactagt agcccttaca tgcttgctga 180  
 tgcccttatt gttagtata ctactaatag agatagagat aagcaagaaa ataaagataa 240  
 attaaatgaa gaagataaaa aaaagcttaa tgcttttttt agcacaacta aaacatatca 300  
 atctagccta gattccattt ataacaaata tacaggctat tataatacca ttgataccta 360  
 tggcagctgt gatacgtatc gcattgagtg ttttagtgta ggaccttctg aaaaacgtaa 420  
 acaagctctt gctgatctag agaagttaaa actagacgaa aagtacactc agcttagcac 480  
 aatgttaaag agtgctgtgc ctagttatta caaaaaaaat ttagatgatt ctattgcaca 540  
 gtataaggaa gccataaagc aggctattga agctgaaagt aaaatagaga cagtaaaaga 600  
 ctatgcaaca gctcaaagtg ctgccgatga cgaaaagaaa agaaatatag ataatttaa 660  
 aatagttaga gatgttcttc ttattattaa aaaaactatt gagaaagcca gccgatctta 720  
 tgctgatgct tttgctattg caacatctag cttatcttgt agcgaattta agcaagctgt 780  
 taaagagttt aatgatgctg ctaaacaata tgctaattgga aataaaggag acaatgctgt 840  
 caatgttatt gtaggcacta tttctagtat gccttatgtc aaatttaaag atgagtttgc 900  
 aagagcaaaa atgtttgctc gtaattatag aggagacgag gtagacaaga tgataagagc 960  
 tatcgacaag 970

<210> 643  
 <211> 358  
 <212> PRT  
 <213> Homo sapiens

<400> 643  
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 1 5 10 15  
 Leu Leu Val Thr Ile Leu Phe Val Ser Cys Lys Phe Phe Gly Asn Lys

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Ser	Ala	Ser	Lys	Glu	Lys	Glu	Glu	Thr	Ser	Phe	Ser	Asp	Thr	Ala	Ser
		35					40					45			
Lys	Ile	Ser	Lys	Ser	Gly	Thr	Ala	Ala	Ser	Ser	Asp	Lys	Gln	Glu	Lys
	50					55					60				
Asn	Thr	Ser	Asp	Val	Thr	Gly	Asp	Ala	Lys	Lys	His	Thr	Ser	Ser	Pro
	65					70					75				80
Tyr	Met	Leu	Ala	Asp	Ala	Leu	Ile	Val	Ser	Asp	Thr	Thr	Asn	Arg	Asp
				85					90					95	
Arg	Asp	Lys	Gln	Glu	Asn	Lys	Asp	Lys	Leu	Asn	Glu	Glu	Asp	Lys	Lys
			100					105					110		
Lys	Leu	Asn	Ala	Phe	Phe	Ser	Thr	Thr	Lys	Thr	Tyr	Gln	Ser	Ser	Leu
	115						120					125			
Asp	Ser	Ile	Tyr	Asn	Lys	Tyr	Thr	Gly	Tyr	Tyr	Asn	Thr	Ile	Asp	Thr
	130					135					140				
Tyr	Gly	Ser	Cys	Asp	Thr	Tyr	Arg	Ile	Glu	Cys	Phe	Ser	Val	Gly	Pro
	145					150					155				160
Ser	Glu	Lys	Arg	Lys	Gln	Ala	Leu	Ala	Asp	Leu	Glu	Lys	Leu	Lys	Leu
				165					170					175	
Asp	Glu	Lys	Tyr	Thr	Gln	Leu	Ser	Thr	Met	Leu	Lys	Ser	Ala	Val	Pro
			180					185					190		
Ser	Tyr	Tyr	Lys	Lys	Asn	Leu	Asp	Asp	Ser	Ile	Ala	Gln	Tyr	Lys	Glu
		195					200					205			
Ala	Ile	Lys	Gln	Ala	Ile	Glu	Ala	Glu	Ser	Lys	Ile	Glu	Thr	Val	Lys
	210					215					220				
Asp	Tyr	Ala	Thr	Ala	Gln	Ser	Ala	Ala	Asp	Asp	Glu	Lys	Lys	Arg	Asn
	225					230					235				240
Ile	Asp	Asn	Leu	Lys	Ile	Val	Arg	Asp	Val	Leu	Leu	Ile	Ile	Lys	Lys
			245						250					255	
Thr	Ile	Glu	Lys	Ala	Ser	Arg	Ser	Tyr	Ala	Asp	Ala	Phe	Ala	Ile	Ala
			260					265					270		
Thr	Ser	Ser	Leu	Ser	Cys	Ser	Glu	Phe	Lys	Gln	Ala	Val	Lys	Glu	Phe
			275				280					285			
Asn	Asp	Ala	Ala	Lys	Gln	Tyr	Ala	Asn	Gly	Asn	Lys	Gly	Asp	Asn	Ala
	290					295					300				
Val	Asn	Val	Ile	Val	Gly	Thr	Ile	Ser	Ser	Met	Pro	Tyr	Val	Lys	Phe
	305					310					315				320
Lys	Asp	Glu	Phe	Ala	Arg	Ala	Lys	Met	Phe	Ala	Arg	Asn	Tyr	Arg	Gly
				325					330					335	
Asp	Glu	Val	Asp	Lys	Met	Ile	Arg	Ala	Ile	Asp	Lys	Leu	Cys	Asp	Val



340

345

350

Tyr Lys Lys Val Ala Leu  
355

&lt;210&gt; 644

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 644

Cys Lys Phe Phe Gly Asn Lys Ser Ala Ser Lys Glu Lys Glu Glu Thr  
1 5 10 15

Ser Phe Ser Asp Thr Ala Ser Lys Ile Ser Lys Ser Gly Thr Ala Ala  
20 25 30

Ser Ser Asp Lys Gln Glu Lys Asn Thr Ser Asp Val Thr Gly Asp Ala  
35 40 45

Lys Lys His Thr Ser Ser Pro Tyr Met Leu Ala Asp Ala Leu Ile Val  
50 55 60

Ser Asp Thr Thr Asn Arg Asp Arg Asp Lys Gln Glu Asn Lys Asp Lys  
65 70 75 80

Leu Asn Glu Glu Asp Lys Lys Lys Leu Asn Ala Phe Phe Ser Thr Thr  
85 90 95

Lys Thr Tyr Gln Ser Ser Leu Asp Ser Ile Tyr Asn Lys Tyr Thr Gly  
100 105 110

Tyr Tyr Asn Thr Ile Asp Thr Tyr Gly Ser Cys Asp Thr Tyr Arg Ile  
115 120 125

Glu Cys Phe Ser Val Gly Pro Ser Glu Lys Arg Lys Gln Ala Leu Ala  
130 135 140

Asp Leu Glu Lys Leu Lys Leu Asp Glu Lys Tyr Thr Gln Leu Ser Thr  
145 150 155 160

Met Leu Lys Ser Ala Val Pro Ser Tyr Tyr Lys Lys Asn Leu Asp Asp  
165 170 175

Ser Ile Ala Gln Tyr Lys Glu Ala Ile Lys Gln Ala Ile Glu Ala Glu  
180 185 190

Ser Lys Ile Glu Thr Val Lys Asp Tyr Ala Thr Ala Gln Ser Ala Ala  
195 200 205

Asp Asp Glu Lys Lys Arg Asn Ile Asp Asn Leu Lys Ile Val Arg Asp  
210 215 220

Val Leu Leu Ile Ile Lys Lys Thr Ile Glu Lys Ala Ser Arg Ser Tyr  
225 230 235 240

Ala Asp Ala Phe Ala Ile Ala Thr Ser Ser Leu Ser Cys Ser Glu Phe  
245 250 255

Lys Gln Ala Val Lys Glu Phe Asn Asp Ala Ala Lys Gln Tyr Ala Asn

260 265 270

Gly Asn Lys Gly Asp Asn Ala Val Asn Val Ile Val Gly Thr Ile Ser  
275 280 285

Ser Met Pro Tyr Val Lys Phe Lys Asp Glu Phe Ala Arg Ala Lys Met  
290 295 300

Phe Ala Arg Asn Tyr Arg Gly Asp Glu Val Asp Lys Met Ile Arg Ala  
305 310 315 320

Ile Asp Lys

<210> 645  
<211> 696  
<212> DNA  
<213> Homo sapiens

<400> 645  
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ggattattaa ttttttggtg tgcaaccttt gtttggttga ttggaatttt ttattcaaat 120  
aactttaaag aagagcggaa ttattcaata agcccaatag atagtgttat tatgcgtaaa 180  
tgttatttta aagaatttaa gtctggactt attaaaagcg tattctttta gaaattagat 240  
gtaaatgtta actctaaaaa ttttaaggag ctaaaataagg tagataaaca aaatctgcta 300  
aattcttata catcttatca tatggagttt gtcgtagtgtg ataatggatt tttaatgaat 360  
tttaaaaatg ttatttttaa tggatatagat gatgctaaat tatacgatca acgtgatatg 420  
gtttacggag gatttagata ctcaaaagag gcttatttcc aaattatttg caattatgat 480  
gttaaattaa ataaaatgaa acaatatact ccagcaattg tagtaaagt tttcaaaatt 540  
aacattaatg atgctttatt taactcgtta ttaaagcaaa aaactttaaa agttactttg 600  
atttcccata ataataaaga gtatatttta caaactaata atttcttata aaagtataat 660  
tttcaaacac cagaaaagga gaatagttct tactaa 696

<210> 646  
<211> 577  
<212> DNA  
<213> Homo sapiens

<400> 646  
aaataacttt aaagaagagc ggaattattc aataagccca atagatagtg ttattatgcg 60  
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agatgtaaat gttaactcta aaaattttta ggagctaaat aaggtagata acaaaaatct 180  
gctaaattct tatccatctt atcatatgga gtttgctgta gttgataatg gattttta 240  
gaattttaaa aatgttattt ttaatggtat agatgatgct aaattatacg atcaacgtga 300  
tatggtttac ggaggattta gatactcaaa agaggcttat ttccaaatta ttggcaatta 360  
tgatgttaaa ttaaataaaa tgaaacaata tactccagca attgtagtaa atgttttcaa 420  
aattaacatt aatgatgctt tatttaactc gttattaaag caaaaaactt taaaagttac 480  
tttgatttcc cataataata aagagtatat ttacaaaact aataatttct tatcaaagta 540  
taattttcaa acaccagaaa aggagaatg ttcttac 577

<210> 647  
<211> 230  
<212> PRT  
<213> Homo sapiens

<400> 647  
Gly Asn Met Arg Asn Ile Ser Asn Cys Ile Lys Tyr Ile Ile Leu Thr  
1 5 10 15

Met Leu Ile Gly Leu Leu Ile Phe Cys Cys Ala Thr Phe Val Trp Leu

20					25					30									
Ile	Gly	Ile	Phe	Tyr	Ser	Asn	Asn	Phe	Lys	Glu	Glu	Arg	Asn	Tyr	Ser				
35					40					45									
Ile	Ser	Pro	Ile	Asp	Ser	Val	Ile	Met	Arg	Lys	Cys	Tyr	Phe	Lys	Glu				
50					55					60									
Phe	Lys	Ser	Gly	Leu	Ile	Lys	Ser	Val	Phe	Phe	Lys	Lys	Leu	Asp	Val				
65					70					75					80				
Asn	Val	Asn	Ser	Lys	Asn	Phe	Lys	Glu	Leu	Asn	Lys	Val	Asp	Lys	Gln				
85					90					95									
Asn	Leu	Leu	Asn	Ser	Tyr	Pro	Ser	Tyr	His	Met	Glu	Phe	Val	Val	Val				
100					105					110									
Asp	Asn	Gly	Phe	Leu	Met	Asn	Phe	Lys	Asn	Val	Ile	Phe	Asn	Gly	Ile				
115					120					125									
Asp	Asp	Ala	Lys	Leu	Tyr	Asp	Gln	Arg	Asp	Met	Val	Tyr	Gly	Gly	Phe				
130					135					140									
Arg	Tyr	Ser	Lys	Glu	Ala	Tyr	Phe	Gln	Ile	Ile	Gly	Asn	Tyr	Asp	Val				
145					150					155					160				
Lys	Leu	Asn	Lys	Met	Lys	Gln	Tyr	Thr	Pro	Ala	Ile	Val	Val	Asn	Val				
165					170					175									
Phe	Lys	Ile	Asn	Ile	Asn	Asp	Ala	Leu	Phe	Asn	Ser	Leu	Leu	Lys	Gln				
180					185					190									
Lys	Thr	Leu	Lys	Val	Thr	Leu	Ile	Ser	His	Asn	Asn	Lys	Glu	Tyr	Ile				
195					200					205									
Leu	Gln	Thr	Asn	Asn	Phe	Leu	Ser	Lys	Tyr	Asn	Phe	Gln	Thr	Pro	Glu				
210					215					220									
Lys	Glu	Asn	Ser	Ser	Tyr														
225					230														

<210> 648  
 <211> 192  
 <212> PRT  
 <213> Homo sapiens

<400> 648															
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1										10				15	
Val	Ile	Met	Arg	Lys	Cys	Tyr	Phe	Lys	Glu	Phe	Lys	Ser	Gly	Leu	Ile
			20					25					30		
Lys	Ser	Val	Phe	Phe	Lys	Lys	Leu	Asp	Val	Asn	Val	Asn	Ser	Lys	Asn
		35					40					45			
Phe	Lys	Glu	Leu	Asn	Lys	Val	Asp	Lys	Gln	Asn	Leu	Leu	Asn	Ser	Tyr
	50					55					60				
Pro	Ser	Tyr	His	Met	Glu	Phe	Val	Val	Val	Asp	Asn	Gly	Phe	Leu	Met

65		70		75		80
Asn Phe Lys	Asn Val Ile Phe Asn Gly	Ile Asp Asp Ala Lys	Leu Tyr			
	85		90			95
Asp Gln Arg	Asp Met Val Tyr Gly Gly Phe Arg Tyr Ser	Lys Glu Ala				
	100		105			110
Tyr Phe Gln	Ile Ile Gly Asn Tyr Asp Val Lys Leu Asn Lys	Met Lys				
	115		120			125
Gln Tyr Thr	Pro Ala Ile Val Val Asn Val Phe Lys Ile Asn Ile Asn					
	130		135			140
Asp Ala Leu Phe Asn Ser Leu Leu Lys Gln Lys Thr Leu Lys Val Thr						
145		150		155		160
Leu Ile Ser His Asn Asn Lys Glu Tyr Ile Leu Gln Thr Asn Asn Phe						
	165		170			175
Leu Ser Lys Tyr Asn Phe Gln Thr Pro Glu Lys Glu Asn Ser Ser Tyr						
	180		185			190

<210> 649

<211> 837

<212> DNA

<213> Homo sapiens

<400> 649

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tctataaata	aagaacaaaa	aaccaaagaa	aaaacatctg	aaaagcaaga	atctgaaaaa	120
caaaatattg	aaaaacaaga	gcctgaaaaa	cagaaacaaa	atgcagcaaa	aataatccct	180
acggtatcaa	ttcaaacggt	agaaataagg	gaatcaaadc	aaattccaaa	aagcattgag	240
aagtactaca	agcaagctta	tccgattcaa	acattcactc	ttgattttag	catcacaaga	300
gaaaaggaat	ttctaaaacc	agaagataaa	atcttgccca	cacaggggaa	agtggagtct	360
ttgagcatct	taataaataa	aaaattgtta	gactttaaag	ccccagaaaa	tccaaaaagc	420
tcaactttta	aaaatttcaa	agaaattaaa	aatattgaga	atttcttcca	aaatcaagac	480
ttattatttg	tcttaaccct	taaagataaa	aataacaaca	acactattaa	catcatgctc	540
aatcccccaa	acgacatcca	aaaacccaaa	gattatattt	taaaagacct	taaagacaca	600
attaaaaagg	gtactgggtga	gaaatactta	aatcctatct	atagattttca	aataaaaaaac	660
aaaaaagatt	atcattcaat	agattacaac	aaagtgacta	ttagcgaaaa	aacaatagaa	720
ttggacctac	tgctcacga	acaagtcctt	caaatgaata	aaaatttcac	taaaatttta	780
gacacaataa	cagacttaaa	taatctaaaa	ttagtaattc	aaaaagaatt	agtgttaa	837

<210> 650

<211> 724

<212> DNA

<213> Homo sapiens

<400> 650

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atctgaaaaa	caaaatattg	aaaaacaaga	gcctgaaaaa	cagaaacaaa	atgcagcaaa	120
aataatccct	acggtatcaa	ttcaaacggt	agaaataagg	gaatcaaadc	aaattccaaa	180
aagcattgag	aagtactaca	agcaagctta	tccgattcaa	acattcactc	ttgattttag	240
catcacaaga	gaaaaggaat	ttctaaaacc	agaagataaa	atcttgccca	cacaggggaa	300
agtggagtct	ttgagcatct	taataaataa	aaaattgtta	gactttaaag	ccccagaaaa	360
tccaaaaagc	tcaactttta	aaaatttcaa	agaaattaaa	aatattgaga	atttcttcca	420
aaatcaagac	ttattatttg	tcttaaccct	taaagataaa	aataacaaca	acactattaa	480
catcatgctc	aatcccccaa	acgacatcca	aaaacccaaa	gattatattt	taaaagacct	540
taaagacaca	attaaaaagg	gtactgggtga	gaaatactta	aatcctatct	atagattttca	600

aataaaaaaac aaaaaagatt atcattcaat agattacaac aaagtgacta ttagcgaaaa 660  
aacaatagaa ttggacctac tgcctcacga acaagtcttt caaatgaata aaaatttcac 720  
taaa 724

<210> 651  
<211> 277  
<212> PRT  
<213> Homo sapiens

<400> 651

Met Ser Lys Lys Val Ile Leu Ile Leu Leu Glu Ile Leu Ile Leu Ser  
1 5 10 15

Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser  
20 25 30

Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu  
35 40 45

Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln  
50 55 60

Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys  
65 70 75 80

Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser  
85 90 95

Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro  
100 105 110

Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu  
115 120 125

Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn  
130 135 140

Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu  
145 150 155 160

Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn  
165 170 175

Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile  
180 185 190

Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr  
195 200 205

Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His  
210 215 220

Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu  
225 230 235 240

Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr  
245 250 255

Lys Ile Leu Asp Thr Ile Thr Asp Leu Asn Asn Leu Lys Leu Val Ile  
260 265 270

Gln Lys Glu Leu Val  
275

<210> 652

<211> 241

<212> PRT

<213> Homo sapiens

<400> 652

Cys Asp Leu Ser Ile Asn Lys Glu Gln Lys Thr Lys Glu Lys Thr Ser  
1 5 10 15

Glu Lys Gln Glu Ser Glu Lys Gln Asn Ile Glu Lys Gln Glu Pro Glu  
20 25 30

Lys Gln Lys Gln Asn Ala Ala Lys Ile Ile Pro Thr Val Ser Ile Gln  
35 40 45

Thr Val Glu Ile Arg Glu Ser Asn Gln Ile Pro Lys Ser Ile Glu Lys  
50 55 60

Tyr Tyr Lys Gln Ala Tyr Pro Ile Gln Thr Phe Thr Leu Asp Phe Ser  
65 70 75 80

Ile Thr Arg Glu Lys Glu Phe Leu Lys Pro Glu Asp Lys Ile Leu Pro  
85 90 95

Thr Gln Gly Lys Val Glu Ser Leu Ser Ile Leu Ile Asn Lys Lys Leu  
100 105 110

Leu Asp Phe Lys Ala Pro Glu Asn Pro Lys Ser Ser Thr Leu Lys Asn  
115 120 125

Phe Lys Glu Ile Lys Asn Ile Glu Asn Phe Phe Gln Asn Gln Asp Leu  
130 135 140

Leu Phe Val Leu Thr Leu Lys Asp Lys Asn Asn Asn Asn Thr Ile Asn  
145 150 155 160

Ile Met Leu Asn Pro Pro Asn Asp Ile Gln Lys Pro Lys Asp Tyr Ile  
165 170 175

Leu Lys Asp Leu Lys Asp Thr Ile Lys Lys Gly Thr Gly Glu Lys Tyr  
180 185 190

Leu Asn Pro Ile Tyr Arg Phe Gln Ile Lys Asn Lys Lys Asp Tyr His  
195 200 205

Ser Ile Asp Tyr Asn Lys Val Thr Ile Ser Glu Lys Thr Ile Glu Leu  
210 215 220

Asp Leu Leu Pro His Glu Gln Val Phe Gln Met Asn Lys Asn Phe Thr  
225 230 235 240

Lys

<210> 653

<211> 579

<212> DNA  
<213> Homo sapiens

<400> 653  
tagaaggagg aaaaaatgaa aattggaaa ctaaattcaa tagttatagc cttgtttttt 60  
aaactattgg tcgcatgtag tattggatta gtagaaagaa caaatgcagc tcttgaatcg 120  
tcctctaagg atttaaaaaa caaaatttta aaaataaaaa aagaagccac gggaaaagg 180  
gtactttttg aagctttttac aggtctttaa accggttcca aggtaacaag tgggtggacta 240  
gccttaagag aagcaaaaag acaagccatt gttgaaacag gaaagttcct taagataata 300  
gaagaagaag ctttaaagct taaagaaact ggaaacagtg gtcaattcct ggctatgttt 360  
gacttaatgc ttgagggttg agaatcgcta gaagacgttg gaataatagg cttaaaagcc 420  
cgtgttttag aggaatctaa aaataatcct ataaacacag ctgaaagatt gcttgcggt 480  
aaagctcaaa tagaaaatca acttaaagtg gtttaaggaaa aacaaaatat tgaaaatggt 540  
ggagagaaaa aaaataataa aagcaaaaaa aagaataa 579

<210> 654  
<211> 502  
<212> DNA  
<213> Homo sapiens

<400> 654  
atgtagtatt ggattagtag aaagaacaaa tgcagctcct gaatcgtoct ctaaggatttt 60  
aaaaaacaaa attttaaaaa taaaaaaaga agccacggga aaaggtgtac tttttgaagc 120  
ttttacaggc cttaaaaccg gttccaaggc aacaagtggg ggactagcct taagagaagc 180  
aaaagtacaa gccattgttg aaacaggaaa gttccttaag ataatagaag aagaagcttt 240  
aaagcttaaa gaaactggaa acagtgggtca attccttggt atgtttgact taatgcttga 300  
ggttgtagaa tcgctagaag acgttggaat aataggctta aaagcccgtg ttttagagga 360  
atctaaaaat aatcctataa acacagctga aagattgctt gcggctaaag ctcaaataga 420  
aaatcaactt aaagtgggtta aggaaaaaca aaatattgaa aatggtggag agaaaaaaaa 480  
taataaaagc aaaaaaaaga aa 502

<210> 655  
<211> 191  
<212> PRT  
<213> Homo sapiens

<400> 655  
Lys Glu Glu Lys Met Lys Ile Gly Lys Leu Asn Ser Ile Val Ile Ala  
1 5 10 15  
Leu Phe Phe Lys Leu Leu Val Ala Cys Ser Ile Gly Leu Val Glu Arg  
20 25 30  
Thr Asn Ala Ala Leu Glu Ser Ser Ser Lys Asp Leu Lys Asn Lys Ile  
35 40 45  
Leu Lys Ile Lys Lys Glu Ala Thr Gly Lys Gly Val Leu Phe Glu Ala  
50 55 60  
Phe Thr Gly Leu Lys Thr Gly Ser Lys Val Thr Ser Gly Gly Leu Ala  
65 70 75 80  
Leu Arg Glu Ala Lys Val Gln Ala Ile Val Glu Thr Gly Lys Phe Leu  
85 90 95  
Lys Ile Ile Glu Glu Glu Ala Leu Lys Leu Lys Glu Thr Gly Asn Ser  
100 105 110  
Gly Gln Phe Leu Ala Met Phe Asp Leu Met Leu Glu Val Val Glu Ser  
115 120 125

Leu Glu Asp Val Gly Ile Ile Gly Leu Lys Ala Arg Val Leu Glu Glu  
130 135 140

Ser Lys Asn Asn Pro Ile Asn Thr Ala Glu Arg Leu Leu Ala Ala Lys  
145 150 155 160

Ala Gln Ile Glu Asn Gln Leu Lys Val Val Lys Glu Lys Gln Asn Ile  
165 170 175

Glu Asn Gly Gly Glu Lys Lys Asn Asn Lys Ser Lys Lys Lys Lys  
180 185 190

<210> 656

<211> 167

<212> PRT

<213> Homo sapiens

<400> 656

Cys Ser Ile Gly Leu Val Glu Arg Thr Asn Ala Ala Leu Glu Ser Ser  
1 5 10 15

Ser Lys Asp Leu Lys Asn Lys Ile Leu Lys Ile Lys Lys Glu Ala Thr  
20 25 30

Gly Lys Gly Val Leu Phe Glu Ala Phe Thr Gly Leu Lys Thr Gly Ser  
35 40 45

Lys Val Thr Ser Gly Gly Leu Ala Leu Arg Glu Ala Lys Val Gln Ala  
50 55 60

Ile Val Glu Thr Gly Lys Phe Leu Lys Ile Ile Glu Glu Glu Ala Leu  
65 70 75 80

Lys Leu Lys Glu Thr Gly Asn Ser Gly Gln Phe Leu Ala Met Phe Asp  
85 90 95

Leu Met Leu Glu Val Val Glu Ser Leu Glu Asp Val Gly Ile Ile Gly  
100 105 110

Leu Lys Ala Arg Val Leu Glu Glu Ser Lys Asn Asn Pro Ile Asn Thr  
115 120 125

Ala Glu Arg Leu Leu Ala Ala Lys Ala Gln Ile Glu Asn Gln Leu Lys  
130 135 140

Val Val Lys Glu Lys Gln Asn Ile Glu Asn Gly Gly Glu Lys Lys Asn  
145 150 155 160

Asn Lys Ser Lys Lys Lys Lys  
165

<210> 657

<211> 525

<212> DNA

<213> Homo sapiens

<400> 657

taatttttaa aatttaaata ttacataat agtaatgtgt gtgggagacg tatgaaaaat 60  
atattattat ttgttatttt attattcttt tcttgtaaag aatttaatta ttctgatctt 120



aggagaaggc cttcaaagggt tttaaagtgt tctaattggtg catcaaataa agaacttaaa 180  
 atttcttttg tagattcttt aaatgatgat caaaaagaag ctttgttttt tcttgaacag 240  
 gtagttcttg atagcaatcc cgacaagttt aatcaaattt ttaatttaaa tgaagagaag 300  
 gtaaaagaaa tgcttggttac tggttgtaag tgtttaaagg ccaaaagaaa ggctaaaatg 360  
 gctcttgaga gctcaaagtgt tgcaaagtgt gccaatgcta aacagcaatt gctacaggtt 420  
 gaaaaaactt acatagataa tttgcgacaa tcttttatga ctactaaaaa cattgaagag 480  
 gcttgtaatc ttgtaaaaaa ttatgatgca tctgcttcgt tttaa 525

<210> 658

<211> 430

<212> DNA

<213> Homo sapiens

<400> 658

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 taatggtgca tcaaataaag aacttaaaat ttcttttgta gattctttaa atgatgatca 120  
 aaaagaagct ttgttttttc ttgaacaggt agttcttgat agcaatcccg acaagtttaa 180  
 tcaaattttt aattttaaag aagagaagggt aaaagaaatg cttgttactg ttgttaagtg 240  
 tttaaaggcc aaaagaaagg ctaaaatggc tcttgagagc tcaaagtgtg caaatgttgc 300  
 caatgctaaa cagcaattgc tacaggttga aaaaacttac atagataatt tgcgacaatc 360  
 ttttatgact actaaaaaca ttgaagaggc ttgtaatctt gtaaaaaatt atgatgcatc 420  
 tgcttcggtt 430

<210> 659

<211> 173

<212> PRT

<213> Homo sapiens

<400> 659

Phe Leu Lys Phe Lys Tyr Leu His Asn Ser Asn Val Cys Gly Arg Arg  
 1 5 10 15

Met Lys Asn Ile Leu Leu Phe Val Ile Leu Leu Phe Phe Ser Cys Lys  
 20 25 30

Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val Leu Asn  
 35 40 45

Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe Val Asp  
 50 55 60

Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu Gln Val  
 65 70 75 80

Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn Leu Asn  
 85 90 95

Glu Glu Lys Val Lys Glu Met Leu Val Thr Val Val Lys Cys Leu Lys  
 100 105 110

Ala Lys Arg Lys Ala Lys Met Ala Leu Glu Ser Ser Asn Val Ala Asn  
 115 120 125

Val Ala Asn Ala Lys Gln Gln Leu Leu Gln Val Glu Lys Thr Tyr Ile  
 130 135 140

Asp Asn Leu Arg Gln Ser Phe Met Thr Thr Lys Asn Ile Glu Glu Ala  
 145 150 155 160

Cys Asn Leu Val Lys Asn Tyr Asp Ala Ser Ala Ser Phe

165

170

<210> 660  
 <211> 143  
 <212> PRT  
 <213> Homo sapiens

<400> 660  
 Cys Lys Glu Phe Asn Tyr Ser Asp Leu Arg Arg Arg Pro Ser Lys Val  
     1                    5                    10                    15  
 Leu Asn Ala Ser Asn Gly Ala Ser Asn Lys Glu Leu Lys Ile Ser Phe  
                     20                    25                    30  
 Val Asp Ser Leu Asn Asp Asp Gln Lys Glu Ala Leu Phe Phe Leu Glu  
                     35                    40                    45  
 Gln Val Val Leu Asp Ser Asn Pro Asp Lys Phe Asn Gln Ile Phe Asn  
                     50                    55                    60  
 Leu Asn Glu Glu Lys Val Lys Glu Met Leu Val Thr Val Val Lys Cys  
                     65                    70                    75                    80  
 Leu Lys Ala Lys Arg Lys Ala Lys Met Ala Leu Glu Ser Ser Asn Val  
                     85                    90                    95  
 Ala Asn Val Ala Asn Ala Lys Gln Gln Leu Leu Gln Val Glu Lys Thr  
                     100                    105                    110  
 Tyr Ile Asp Asn Leu Arg Gln Ser Phe Met Thr Thr Lys Asn Ile Glu  
                     115                    120                    125  
 Glu Ala Cys Asn Leu Val Lys Asn Tyr Asp Ala Ser Ala Ser Phe  
                     130                    135                    140

<210> 661  
 <211> 324  
 <212> DNA  
 <213> Homo sapiens

<400> 661  
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 aacaaaatgg atgatatttt taatttagaa aagaaatata tggataattc aaattataaa 180  
 tgtttaagta aaaatgaggc tatagttaaa aatttctaaa ttaaattagg tgtaaataat 240  
 actagaagtc gttcttattc ttctagagag actaatgttt cggattccta taataaaacc 300  
 tattcatatt gcaaaagcaa ctga 324

<210> 662  
 <211> 229  
 <212> DNA  
 <213> Homo sapiens

<400> 662  
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 gaaatacatg gataattcaa attataaatg tttaagtaaa aatgaggcta tagttaaaaa 120  
 ttctaaaatt aaattagggtg taaataatac tagaagtcgt tcttattctt ctagagagac 180  
 taatgtttcg gattcctata ataaaaccta ttcattattgc aaaagcaac 229

<210> 663

<211> 106  
 <212> PRT  
 <213> Homo sapiens

<400> 663

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Leu Leu Lys Ser Lys Glu Lys Arg Phe Met Asn Lys Lys Phe Ser Ile
 1             5             10             15

Ser Leu Leu Ser Thr Ile Leu Ala Phe Leu Leu Val Leu Gly Cys Asp
      20             25             30

Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe Asn Leu
      35             40             45

Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser Lys Asn
      50             55             60

Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn Asn Thr
      65             70             75             80

Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp Ser Tyr
      85             90             95

Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn
      100             105
  
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<210> 664  
 <211> 76  
 <212> PRT  
 <213> Homo sapiens

<400> 664

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Cys Asp Leu Ser Ser Asn Asn Ala Glu Asn Lys Met Asp Asp Ile Phe
 1             5             10             15

Asn Leu Glu Lys Lys Tyr Met Asp Asn Ser Asn Tyr Lys Cys Leu Ser
      20             25             30

Lys Asn Glu Ala Ile Val Lys Asn Ser Lys Ile Lys Leu Gly Val Asn
      35             40             45

Asn Thr Arg Ser Arg Ser Tyr Ser Ser Arg Glu Thr Asn Val Ser Asp
      50             55             60

Ser Tyr Asn Lys Thr Tyr Ser Tyr Cys Lys Ser Asn
      65             70             75
  
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<210> 665  
 <211> 459  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (29)  
 <223> n equals a,t,g, or c

<400> 665

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tgaatattaa taataaaaaa aggaataana atgaaaatta tcaacatatt attttgttta 60
tttttactaa tgctaaacag ctgtaattct aatgatacta atactagcca aacaaaaagt 120
  
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agacaaaaaac gtgattttaac ccaaaaagaa gcaacacaag aaaaaccaa atctaaagaa 180  
 gacctgctta gagaaaagct atctgaagac caaaaaacac atcttgactg gttaaaaacc 240  
 gctttaactg gtgctggaga atttgataaa tttttaggat atgacgaaga caaaataaaa 300  
 ggtgcactta atcatataaa gagtgaactt gataagtgtg ctggggataa ttctgaacaa 360  
 caaaaagca ccttcaaaga ggtgggtaag ggggctcttg gtggcggtat agatagtttt 420  
 gcaactagtg caagtagtac ctgccaaagt cagcaataa 459

<210> 666  
 <211> 376  
 <212> DNA  
 <213> Homo sapiens

<400> 666  
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 ccaaaaagaa gcaacacaag aaaaaccaa atctaaagaa gacctgctta gagaaaagct 120  
 atctgaagac caaaaaacac atcttgactg gttaaaaacc gctttaactg gtgctggaga 180  
 atttgataaa tttttaggat atgacgaaga caaaataaaa ggtgcactta atcatataaa 240  
 gagtgaactt gataagtgtg ctggggataa ttctgaacaa caaaaagca ccttcaaaga 300  
 ggtgggtaag ggggctcttg gtggcggtat agatagtttt gcaactagtg caagtagtac 360  
 ctgccaaagt cagcaa 376

<210> 667  
 <211> 151  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (9)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 667  
 Ile Leu Ile Ile Lys Lys Gly Ile Xaa Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15  
 Phe Cys Leu Phe Leu Leu Met Leu Asn Ser Cys Asn Ser Asn Asp Thr  
 20 25 30  
 Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
 35 40 45  
 Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Asp Leu Leu Arg Glu  
 50 55 60  
 Lys Leu Ser Glu Asp Gln Lys Thr His Leu Asp Trp Leu Lys Thr Ala  
 65 70 75 80  
 Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe Leu Gly Tyr Asp Glu Asp  
 85 90 95  
 Lys Ile Lys Gly Ala Leu Asn His Ile Lys Ser Glu Leu Asp Lys Cys  
 100 105 110  
 Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser Thr Phe Lys Glu Val Val  
 115 120 125  
 Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser Phe Ala Thr Ser Ala Ser  
 130 135 140  
 Ser Thr Cys Gln Ala Gln Gln

145

150

&lt;210&gt; 668

&lt;211&gt; 125

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 668

Cys Asn Ser Asn Asp Thr Asn Thr Ser Gln Thr Lys Ser Arg Gln Lys  
 1 5 10 15

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
 20 25 30

Glu Asp Leu Leu Arg Glu Lys Leu Ser Glu Asp Gln Lys Thr His Leu  
 35 40 45

Asp Trp Leu Lys Thr Ala Leu Thr Gly Ala Gly Glu Phe Asp Lys Phe  
 50 55 60

Leu Gly Tyr Asp Glu Asp Lys Ile Lys Gly Ala Leu Asn His Ile Lys  
 65 70 75 80

Ser Glu Leu Asp Lys Cys Thr Gly Asp Asn Ser Glu Gln Gln Lys Ser  
 85 90 95

Thr Phe Lys Glu Val Val Lys Gly Ala Leu Gly Gly Gly Ile Asp Ser  
 100 105 110

Phe Ala Thr Ser Ala Ser Ser Thr Cys Gln Ala Gln Gln  
 115 120 125

&lt;210&gt; 669

&lt;211&gt; 1047

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 669

taggagagaa taattatgaa taaaaaaaca ttgattattt gtgctgtttt tgcgctgata 60  
 atttcttgca agaattttgc aactggtaaa gatataaaac aaaattcaga agggaaaatt 120  
 aaaggatttg taaataagat tttagatcca gtaaaggata aaattgcttc aagtgggtaca 180  
 aaagtagatg aagtagcaaa aaaattacaa gaagaagaaa aagaagaatt aatgcagggc 240  
 gatgatccta atggcagtgg aataaatccg ccaccagtat tgccggaaaa tattcacaat 300  
 aatgcattag tattaaaagc aatagaacaa agtgatggtc aacaagaaaa aaaagtagaa 360  
 gaagctgaag ctaaagttga agaaaataaa gaaaaacaag agaatacaga agaaaacatt 420  
 aaagaaaaag aaataataga cgaacaaaac aaacaagaat tagctaaagc taaagaagaa 480  
 gaacaacaaa aagaacaaaa aagacatcaa gaagagcaac aaagaaaagc taaagcagaa 540  
 aaagaaaaaa gagaaagaga agaggcagaa caacaaaaac gacaacaaga agaggaagaa 600  
 aaaaggcaag ttgataacca aattaaaaca cttatagcta aaatagatga gatcaatgaa 660  
 aatattgatg ttataaaatg gcaaacgact gtaggcccac aaggcggttat agatagaatt 720  
 actgggcttg tgtatgatga ttttaccat ggcaataatt ctatacgcg aacttgggag 780  
 ggggttagaag aggaatcaga agacgaagga ttaggaaaat tattgaaaga attgagtgat 840  
 gctagggacg cgctaagaac taaattaaat gaaggcaata aaccatatac tgggtacgaa 900  
 gagcctaagt taaaagaaag tgtaaatgtt agcgaaatta aagaagattt agaaaaatta 960  
 aaatcaaaat tagaagaagt taaaaaatat cttaaagata gttctaaatt tgaagaaatt 1020  
 aaaggatata tcagtgcacg tcagtaa 1047

&lt;210&gt; 670

&lt;211&gt; 979

&lt;212&gt; DNA

<213> Homo sapiens

<400> 670

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atttgtaaat aagatttttag atccagtaaa ggataaaatt gcttcaagtg gtacaaaagt 120
agatgaagta gcaaaaaaat tacaagaaga agaaaaagaa gaattaatgc agggcgatga 180
tcctaattggc agtggaataa atccgccacc agtattgccg gaaaatattc acaataatgc 240
attagtatta aaagcaatag aacaaagtga tggtaacaa gaaaaaaaag tagaagaagc 300
tgaagctaaa gttgaagaaa ataaagaaaa acaagagaat acagaagaaa acattaaaga 360
aaaagaaata atagacgaac aaaacaaaca agaattagct aaagctaaag aagaagaaca 420
acaaaaagaa caaaaaagac atcaagaaga gcaacaaaga aaagctaaag cagaaaaaga 480
aaaaagagaa agagaagagg cagaacaaca aaaacgacaa caagaagagg aagaaaaaag 540
gcaagttgat aaccaaatta aaacacttat agctaaaata gatgagatca atgaaaatat 600
tgatgttata aaatggcaaa cgactgtagg cccacaaggc gttatagata gaattactgg 660
gcctgtgtat gatgatttta ccaatggcaa taattctata cgcgaaactt gggagggggtt 720
agaagaggaa tcagaagacg aaggattagg aaaattattg aaagaattga gtgatgctag 780
ggacgcgcta agaactaaat taaatgaagg caataaacca tatactggtt acgaagagcc 840
taagttaaaa gaaagtgtaa atgttagcga aattaaagaa gatttagaaa aattaaaatc 900
aaaattagaa gaagttaaaa aatatcttaa agatagttct aaatttgaag aaattaaagg 960
atacatcagt gacagtcag                                     979
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<210> 671

<211> 347

<212> PRT

<213> Homo sapiens

<400> 671

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Glu Arg Ile Ile Met Asn Lys Lys Thr Leu Ile Ile Cys Ala Val Phe
  1             5             10             15

Ala Leu Ile Ile Ser Cys Lys Asn Phe Ala Thr Gly Lys Asp Ile Lys
      20             25             30

Gln Asn Ser Glu Gly Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp
      35             40             45

Pro Val Lys Asp Lys Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val
      50             55             60

Ala Lys Lys Leu Gln Glu Glu Lys Glu Glu Leu Met Gln Gly Asp
      65             70             75             80

Asp Pro Asn Gly Ser Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn
      85             90             95

Ile His Asn Asn Ala Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly
      100            105            110

Gln Gln Glu Lys Lys Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn
      115            120            125

Lys Glu Lys Gln Glu Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile
      130            135            140

Ile Asp Glu Gln Asn Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu
      145            150            155            160

Gln Gln Lys Glu Gln Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala
      165            170            175
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Lys Ala Glu Lys Glu Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys  
 180 185 190  
 Arg Gln Gln Glu Glu Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys  
 195 200 205  
 Thr Leu Ile Ala Lys Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile  
 210 215 220  
 Lys Trp Gln Thr Thr Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr  
 225 230 235 240  
 Gly Pro Val Tyr Asp Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu  
 245 250 255  
 Thr Trp Glu Gly Leu Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys  
 260 265 270  
 Leu Leu Lys Glu Leu Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu  
 275 280 285  
 Asn Glu Gly Asn Lys Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys  
 290 295 300  
 Glu Ser Val Asn Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys  
 305 310 315 320  
 Ser Lys Leu Glu Glu Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe  
 325 330 335  
 Glu Glu Ile Lys Gly Tyr Ile Ser Asp Ser Gln  
 340 345  
 <210> 672  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens  
 <400> 672  
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 Lys Ile Lys Gly Phe Val Asn Lys Ile Leu Asp Pro Val Lys Asp Lys  
 20 25 30  
 Ile Ala Ser Ser Gly Thr Lys Val Asp Glu Val Ala Lys Lys Leu Gln  
 35 40 45  
 Glu Glu Glu Lys Glu Glu Leu Met Gln Gly Asp Asp Pro Asn Gly Ser  
 50 55 60  
 Gly Ile Asn Pro Pro Pro Val Leu Pro Glu Asn Ile His Asn Asn Ala  
 65 70 75 80  
 Leu Val Leu Lys Ala Ile Glu Gln Ser Asp Gly Gln Gln Glu Lys Lys  
 85 90 95  
 Val Glu Glu Ala Glu Ala Lys Val Glu Glu Asn Lys Glu Lys Gln Glu  
 100 105 110

Asn Thr Glu Glu Asn Ile Lys Glu Lys Glu Ile Ile Asp Glu Gln Asn  
 115 120 125

Lys Gln Glu Leu Ala Lys Ala Lys Glu Glu Glu Gln Gln Lys Glu Gln  
 130 135 140

Lys Arg His Gln Glu Glu Gln Gln Arg Lys Ala Lys Ala Glu Lys Glu  
 145 150 155 160

Lys Arg Glu Arg Glu Glu Ala Glu Gln Gln Lys Arg Gln Gln Glu Glu  
 165 170 175

Glu Glu Lys Arg Gln Val Asp Asn Gln Ile Lys Thr Leu Ile Ala Lys  
 180 185 190

Ile Asp Glu Ile Asn Glu Asn Ile Asp Val Ile Lys Trp Gln Thr Thr  
 195 200 205

Val Gly Pro Gln Gly Val Ile Asp Arg Ile Thr Gly Pro Val Tyr Asp  
 210 215 220

Asp Phe Thr Asn Gly Asn Asn Ser Ile Arg Glu Thr Trp Glu Gly Leu  
 225 230 235 240

Glu Glu Glu Ser Glu Asp Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
 245 250 255

Ser Asp Ala Arg Asp Ala Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys  
 260 265 270

Pro Tyr Thr Gly Tyr Glu Glu Pro Lys Leu Lys Glu Ser Val Asn Val  
 275 280 285

Ser Glu Ile Lys Glu Asp Leu Glu Lys Leu Lys Ser Lys Leu Glu Glu  
 290 295 300

Val Lys Lys Tyr Leu Lys Asp Ser Ser Lys Phe Glu Glu Ile Lys Gly  
 305 310 315 320

Tyr Ile Ser Asp Ser Gln  
 325

<210> 673  
 <211> 522  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (506)  
 <223> n equals a,t,g, or c  
  
 <220>  
 <221> misc\_feature  
 <222> (510)  
 <223> n equals a,t,g, or c

<400> 673  
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 tctttgtctac tactaaatag ctgtaattcc aatgataatg acacttttaa aaacaatgcc 120



caacaaacaa aaagcaggaa aaaacgtgat ttaagccaag aagaactgcc acaacaagaa 180  
 aaaatcactt taacatccga cgaagaaaaa atgtttactt cattaatcaa tgtgttttaa 240  
 tacacaattg aaaaattaaa caatgaaata caaggggtgca tgaatggaaa caaaagtaaa 300  
 tgtaatgact tctttgattg gctttctgaa gatattcaaa aacaaaaaga attagctggg 360  
 gcttttacca aggtttacaa cttcttaaaa tcaaaagcac aaaatgaaac ttttgatact 420  
 tatattaaag gagctattga ttgtaaaaaa aacactccac aagattgtaa taaaaataat 480  
 gaaatatggg gaggtggaca acttantagn gcaatatttt ag 522

<210> 674

<211> 403

<212> DNA

<213> Homo sapiens

<400> 674

ctgtaattcc aatgataatg acactttaaa aaacaatgcc caacaaacaa aaagcaggaa 60  
 aaaacgtgat ttaagccaag aagaactgcc acaacaagaa aaaatcactt taacatccga 120  
 cgaagaaaaa atgtttactt cattaatcaa tgtgttttaa tacacaattg aaaaattaaa 180  
 caatgaaata caaggggtgca tgaatggaaa caaaagtaaa tgtaatgact tctttgattg 240  
 gctttctgaa gatattcaaa aacaaaaaga attagctggg gcttttacca aggtttacaa 300  
 cttcttaaaa tcaaaagcac aaaatgaaac ttttgatact tatattaaag gagctattga 360  
 ttgtaaaaaa aacactccac aagattgtaa taaaaataat gaa 403

<210> 675

<211> 172

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (168)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>

<221> SITE

<222> (169)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 675

Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Ile Ser Leu Leu Leu Leu Asn Ser Cys Asn Ser Asn Asp Asn  
 20 25 30

Asp Thr Leu Lys Asn Asn Ala Gln Gln Thr Lys Ser Arg Lys Lys Arg  
 35 40 45

Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln Glu Lys Ile Thr Leu Thr  
 50 55 60

Ser Asp Glu Glu Lys Met Phe Thr Ser Leu Ile Asn Val Phe Lys Tyr  
 65 70 75 80

Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln Gly Cys Met Asn Gly Asn  
 85 90 95

Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp Leu Ser Glu Asp Ile Gln  
 100 105 110

Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr Lys Val Tyr Asn Phe Leu

115                      120                      125  
 Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp Thr Tyr Ile Lys Gly Ala  
     130                      135                      140  
 Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp Cys Asn Lys Asn Asn Glu  
     145                      150                      155                      160  
 Ile Trp Gly Gly Gly Gln Leu Xaa Xaa Ala Ile Phe  
                     165                      170

<210> 676  
 <211> 134  
 <212> PRT  
 <213> Homo sapiens

<400> 676  
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     1                      5                      10                      15  
 Lys Ser Arg Lys Lys Arg Asp Leu Ser Gln Glu Glu Leu Pro Gln Gln  
             20                      25                      30  
 Glu Lys Ile Thr Leu Thr Ser Asp Glu Glu Lys Met Phe Thr Ser Leu  
             35                      40                      45  
 Ile Asn Val Phe Lys Tyr Thr Ile Glu Lys Leu Asn Asn Glu Ile Gln  
             50                      55                      60  
 Gly Cys Met Asn Gly Asn Lys Ser Lys Cys Asn Asp Phe Phe Asp Trp  
     65                      70                      75                      80  
 Leu Ser Glu Asp Ile Gln Lys Gln Lys Glu Leu Ala Gly Ala Phe Thr  
             85                      90                      95  
 Lys Val Tyr Asn Phe Leu Lys Ser Lys Ala Gln Asn Glu Thr Phe Asp  
             100                      105                      110  
 Thr Tyr Ile Lys Gly Ala Ile Asp Cys Lys Lys Asn Thr Pro Gln Asp  
             115                      120                      125  
 Cys Asn Lys Asn Asn Glu  
     130

<210> 677  
 <211> 1605  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (1535)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (1567)  
 <223> n equals a,t,g, or c

<220>

<221> misc\_feature  
 <222> (1571)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (1593)  
 <223> n equals a,t,g, or c

<220>  
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 <222> (1594)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (1599)  
 <223> n equals a,t,g, or c

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 ttaacaactt tctttgtttt tattaattgt aaaagccaag ttgctgataa ggcgagtgtg 120  
 acggggattg ctaagggaat aaaggagatt gttgaagctg ctggggggag tgaaaagctg 180  
 aaagttgctg ctgctgaagg ggagaataat gaaaaggcag ggaagttgtt tgggaaggct 240  
 ggtgctggta atgctgggga cagtgaggct gctagcaagg cggctggtgc tgttagtgtc 300  
 gttagtgggg agcagatatt aagtgcgatt gttaaggctg ctggtgaggc tgcgcaggat 360  
 ggagagaagc ctggggaggc taaaaatccg attgctgctg ctattgggaa gggtaatgag 420  
 gatggtgcgg agtttaagga tgagatgaag aaggatgatc agattgctgc tgctattgtc 480  
 ttgaggggga tggctaagga tggaaagttt gctgtgaaga atgatgagaa aggggaaggct 540  
 gagggggcta ttaagggagc tggcgagttg ttggataagc tggtaaaagc tgtaaagaca 600  
 gctgaggggg cttcaagtgg tactgctgca attggagaag ttgtggctga tgataatgct 660  
 gcgaaggttg ctgataaggc gagtgtgaag gggattgcta aggggataaa ggagattgtt 720  
 gaagctgctg gggggagtaa aaagctgaaa gttgctgctg ctaaagaggg caatgaaaag 780  
 gcaggggaagt tgtttgaggaa agttgatgct gctcatgctg gggacagtga ggctgctagc 840  
 aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc gattgttaag 900  
 gctgctggtg cggctgctgg tgatcaggag ggaaagaagc ctggggatgc taaaaatccg 960  
 attgctgctg ctattgggaa gggatgatgcg gagaatggtg cggagtttaa tcatgatggg 1020  
 atgaagaagg atgatcagat tgctgctgct attgctttga ggggatggc taaggatgga 1080  
 aagtttgctg tgaagagtgg tgggtggtgag aaagggaagg ctgagggggc tattaagggg 1140  
 gctgctgagt tgttggataa gctggtaaaa gctgtaaaaga cagctgaggg ggcttcaagt 1200  
 ggtactgatg caattggaga agttgtggct aatgctggtg ctgcaaaggt tgctgataag 1260  
 gcgagtgtga cggggattgc taaggggata aaggagattg ttgaagctgc tggggggagt 1320  
 gaaaagctga aagttgctgc tgctacaggg gagagtaata aaggggcagg gaagttgttt 1380  
 gggaaggctg gtgctggtgc taatgctggg gacagtgagg ctgctagcaa ggcggtgggt 1440  
 gctgttagtg ctgttagtgg ggagcagata ttaagtgcga ttgttaaggc tgctgatgcg 1500  
 gctgatcagg agggaaagaa gcctggggat gctanaaatc cgattgctgc tgctattggg 1560  
 aagggtnatg nggagaatgg tgcggagttt aannatgang gatga 1605

<210> 678  
 <211> 469  
 <212> DNA  
 <213> Homo sapiens

<400> 678  
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 taatgaaaag gcaggggaag tggttgaggaa ggctggtgct ggtaatgctg gggacagtga 180  
 ggctgctagc aaggcggctg gtgctgttag tgctgttagt ggggagcaga tattaagtgc 240  
 gattgttaag gctgctggtg aggctgcgca ggatggagag aagcctgggg aggctaaaaa 300  
 tccgattgct gctgctattg ggaagggtaa tgagatgggt gcggagttta aggatgagat 360

gaagaaggat gatcagattg ctgctgctat tgctttgagg gggatggcta aggatggaaa 420  
gtttgctgtg aagaatgatg agaaagggaa ggctgagggg gctattaag 469

<210> 679  
<211> 533  
<212> PRT  
<213> Homo sapiens

<220>  
<221> SITE  
<222> (511)  
<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
<221> SITE  
<222> (522)  
<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
<221> SITE  
<222> (523)  
<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
<221> SITE  
<222> (530)  
<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
<221> SITE  
<222> (531)  
<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
<221> SITE  
<222> (532)  
<223> Xaa equals any of the naturally occurring L-amino acids

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Met Phe Lys Thr Ile Ile Lys Gln Lys Asn Met Lys Lys Ile Ser Ser  
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Ala Ile Leu Leu Thr Thr Phe Phe Val Phe Ile Asn Cys Lys Ser Gln  
20 25 30

Val Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu  
35 40 45

Ile Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala  
50 55 60

Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe Gly Lys Ala Gly  
65 70 75 80

Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala  
85 90 95

Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala  
100 105 110

Ala Gly Glu Ala Ala Gln Asp Gly Glu Lys Pro Gly Glu Ala Lys Asn  
 115 120 125  
 Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Glu Asp Gly Ala Glu Phe  
 130 135 140  
 Lys Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
 145 150 155 160  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Asn Asp Glu Lys  
 165 170 175  
 Gly Lys Ala Glu Gly Ala Ile Lys Gly Ala Gly Glu Leu Leu Asp Lys  
 180 185 190  
 Leu Val Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly Thr Ala  
 195 200 205  
 Ala Ile Gly Glu Val Val Ala Asp Asp Asn Ala Ala Lys Val Ala Asp  
 210 215 220  
 Lys Ala Ser Val Lys Gly Ile Ala Lys Gly Ile Lys Glu Ile Val Glu  
 225 230 235 240  
 Ala Ala Gly Gly Ser Lys Lys Leu Lys Val Ala Ala Ala Lys Glu Gly  
 245 250 255  
 Asn Glu Lys Ala Gly Lys Leu Phe Gly Lys Val Asp Ala Ala His Ala  
 260 265 270  
 Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala Val Ser Ala Val  
 275 280 285  
 Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala Ala Gly Ala Ala  
 290 295 300  
 Ala Gly Asp Gln Glu Gly Lys Lys Pro Gly Asp Ala Lys Asn Pro Ile  
 305 310 315 320  
 Ala Ala Ala Ile Gly Lys Gly Asp Ala Glu Asn Gly Ala Glu Phe Asn  
 325 330 335  
 His Asp Gly Met Lys Lys Asp Asp Gln Ile Ala Ala Ala Ile Ala Leu  
 340 345 350  
 Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys Ser Gly Gly Gly  
 355 360 365  
 Glu Lys Gly Lys Ala Glu Gly Ala Ile Lys Gly Ala Ala Glu Leu Leu  
 370 375 380  
 Asp Lys Leu Val Lys Ala Val Lys Thr Ala Glu Gly Ala Ser Ser Gly  
 385 390 395 400  
 Thr Asp Ala Ile Gly Glu Val Val Ala Asn Ala Gly Ala Ala Lys Val  
 405 410 415  
 Ala Asp Lys Ala Ser Val Thr Gly Ile Ala Lys Gly Ile Lys Glu Ile  
 420 425 430

Val Glu Ala Ala Gly Gly Ser Glu Lys Leu Lys Val Ala Ala Ala Thr  
 435 440 445  
 Gly Glu Ser Asn Lys Gly Ala Gly Lys Leu Phe Gly Lys Ala Gly Ala  
 450 455 460  
 Gly Ala Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys Ala Ala Gly Ala  
 465 470 475 480  
 Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala Ile Val Lys Ala  
 485 490 495  
 Ala Asp Ala Ala Asp Gln Glu Gly Lys Lys Pro Gly Asp Ala Xaa Asn  
 500 505 510  
 Pro Ile Ala Ala Ala Ile Gly Lys Gly Xaa Xaa Glu Asn Gly Ala Glu  
 515 520 525  
 Phe Xaa Xaa Xaa Gly  
 530  
 <210> 680  
 <211> 156  
 <212> PRT  
 <213> Homo sapiens  
 <400> 680  
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 20 25 30  
 Val Ala Ala Ala Glu Gly Glu Asn Asn Glu Lys Ala Gly Lys Leu Phe  
 35 40 45  
 Gly Lys Ala Gly Ala Gly Asn Ala Gly Asp Ser Glu Ala Ala Ser Lys  
 50 55 60  
 Ala Ala Gly Ala Val Ser Ala Val Ser Gly Glu Gln Ile Leu Ser Ala  
 65 70 75 80  
 Ile Val Lys Ala Ala Gly Glu Ala Ala Gln Asp Gly Glu Lys Pro Gly  
 85 90 95  
 Glu Ala Lys Asn Pro Ile Ala Ala Ala Ile Gly Lys Gly Asn Glu Asp  
 100 105 110  
 Gly Ala Glu Phe Lys Asp Glu Met Lys Lys Asp Asp Gln Ile Ala Ala  
 115 120 125  
 Ala Ile Ala Leu Arg Gly Met Ala Lys Asp Gly Lys Phe Ala Val Lys  
 130 135 140  
 Asn Asp Glu Lys Gly Lys Ala Glu Gly Ala Ile Lys  
 145 150 155  
 <210> 681  
 <211> 1125  
 <212> DNA

<213> Homo sapiens

<400> 681

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gctgtTTTTg cacttataat ttcttgtaaa aattatgcaa ctggtaaaga tataaaacaa 120
aatgcaaaag ggaaaattaa aggattttta gataaggttt tagatccagc aaaagataaa 180
attacttcaa gtagttcaaa agtagatgaa ttagcaaaaa aattacaaga agaagatgaa 240
gataatgaat taatgcaggg cgatgatcct aataacagag caatagcact gttaccagta 300
ttgccgaaa atagtcatga caatccacca gtaccaaaaag taaaagcagc agcaciaaagt 360
ggtggtcaac aagaagacca aaaagcaaaa gaattctaaag ataaagttga ggaagaaaaa 420
gaagttgtag aggagaaaaa agaagaacaa gatagtaaaa aagaaaaagt ggagaagcaa 480
agtcaaaagc aaaaagaaga agagagaaac tctaagaag aacaacaaaa acaagaagaa 540
gcaaaagcta gagcagatag agaaagagaa gaacgactaa aacaacaaga acaaaaaaga 600
caacaggaag aagctagggt taaagcagaa aaagaaaaac aagaaagaga ggaacaacaa 660
aaacaagaag aagaaaagaa agttaaatat aaaattaaaa cacttacaga caaaatagat 720
gaaataaata aggatattga tgggtataaat ggtaaaacaa ttgtaggagc agaagaagtt 780
atagataaaa ttacggggcc tgtatatgat gattttactg atgggaataa agctatatat 840
aaaacttggg gagattttaga ggatgaagaa ggcgaagaat taggaaaatt attgaaagaa 900
ttgagtataa ctagacataa ttaagaacc aaattaaatg agggtaataa agcatatatt 960
gttctagaaa aggagcctaa tttaaaagaa aatgtaaatg ttagtgatat tcaatcagat 1020
ttagaaaaat taaaatcagg attagaagaa gttaaaaaat attttgaaaa tgaagataat 1080
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<210> 682

<211> 1039

<212> DNA

<213> Homo sapiens

<400> 682

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ttgtaaaaat tatgcaactg gtaaagatat aaaacaaaat gcaaaagggg aaattaaagg 60
atTTTTtagat aaggTTTTtag atccagcaaa agataaaaatt acttcaagta gttcaaaagt 120
agatgaatta gcaaaaaaat tacaagaaga agatgaagat aatgaattaa tgcagggcga 180
tgatcctaata aacagagcaa tagcactgtt accagtattg ccggaaaata gtcatgacaa 240
tccaccagta ccaaaagtaa aagcagcagc acaaagtggg ggtcaacaag aagacaaaaa 300
agcaaaagaa tctaagata aagttgagga agaaaaagaa gttgtagagg agaaaaaga 360
agaacaagat agtaaaaaag aaaaagtggg gaagcaaaagt caaaagcaaa aagaagaaga 420
gagaaactct aaagaagaac aacaaaaaca agaagaagca aaagctagag cagatagaga 480
aagagaagaa cgactaaaac aacaagaaca aaaaagacaa caggaagaag ctagggttaa 540
agcagaaaaa gaaaaacaag aaagagagga acaacaaaaa caagaagaag aaaagaaagt 600
taaataataa attaaaacac ttacagacaa aatagatgaa ataaataagg atattgatgg 660
tataaatggt aaaacaattg taggagcaga agaagttata gataaaatta cggggcctgt 720
atatgatgat ttactgatg ggaataaagc tatatacaaa acttggggag atttagagga 780
tgaagaaggc gaagaattag gaaaattatt gaaagaattg agtgatacta gacataattt 840
aagaacaaaa ttaaagagg gtaataaagc atatattggt ctagaaaagg agcctaattt 900
aaaagaaaat gttaaattga gtgatattca atcagattta gaaaaattaa aatcaggatt 960
agaagaagtt aaaaaatatt ttgaaaatga agataatttt gaagaaatta aaggatacat 1020
tgaggatagt aattcatat 1039
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<210> 683

<211> 373

<212> PRT

<213> Homo sapiens

<400> 683

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Lys Phe Lys Thr Lys Glu Lys Thr Lys Ser Met Asn Lys Lys Ile Leu
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Ile Ile Phe Ala Val Phe Ala Leu Ile Ile Ser Cys Lys Asn Tyr Ala
                20                      25                      30
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Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly Lys Ile Lys Gly Phe  
 35 40 45  
 Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys Ile Thr Ser Ser Ser  
 50 55 60  
 Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln Glu Glu Asp Glu Asp  
 65 70 75 80  
 Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn Arg Ala Ile Ala Leu  
 85 90 95  
 Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn Pro Pro Val Pro Lys  
 100 105 110  
 Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln Glu Asp Gln Lys Ala  
 115 120 125  
 Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys Glu Val Val Glu Glu  
 130 135 140  
 Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys Val Glu Lys Gln Ser  
 145 150 155 160  
 Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys Glu Glu Gln Gln Lys  
 165 170 175  
 Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu Arg Glu Glu Arg Leu  
 180 185 190  
 Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu Ala Arg Val Lys Ala  
 195 200 205  
 Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln Lys Gln Glu Glu Glu  
 210 215 220  
 Lys Lys Val Lys Tyr Lys Ile Lys Thr Leu Thr Asp Lys Ile Asp Glu  
 225 230 235 240  
 Ile Asn Lys Asp Ile Asp Gly Ile Asn Gly Lys Thr Ile Val Gly Ala  
 245 250 255  
 Glu Glu Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Asp Phe Thr  
 260 265 270  
 Asp Gly Asn Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu Glu Asp Glu  
 275 280 285  
 Glu Gly Glu Glu Leu Gly Lys Leu Leu Lys Glu Leu Ser Asp Thr Arg  
 290 295 300  
 His Asn Leu Arg Thr Lys Leu Asn Glu Gly Asn Lys Ala Tyr Ile Val  
 305 310 315 320  
 Leu Glu Lys Glu Pro Asn Leu Lys Glu Asn Val Asn Val Ser Asp Ile  
 325 330 335  
 Gln Ser Asp Leu Glu Lys Leu Lys Ser Gly Leu Glu Glu Val Lys Lys  
 340 345 350



Tyr Phe Glu Asn Glu Asp Asn Phe Glu Glu Ile Lys Gly Tyr Ile Glu  
 355 360 365

Asp Ser Asn Ser Tyr  
 370

<210> 684

<211> 346

<212> PRT

<213> Homo sapiens

<400> 684

Cys Lys Asn Tyr Ala Thr Gly Lys Asp Ile Lys Gln Asn Ala Lys Gly  
 1 5 10 15

Lys Ile Lys Gly Phe Leu Asp Lys Val Leu Asp Pro Ala Lys Asp Lys  
 20 25 30

Ile Thr Ser Ser Ser Ser Lys Val Asp Glu Leu Ala Lys Lys Leu Gln  
 35 40 45

Glu Glu Asp Glu Asp Asn Glu Leu Met Gln Gly Asp Asp Pro Asn Asn  
 50 55 60

Arg Ala Ile Ala Leu Leu Pro Val Leu Pro Glu Asn Ser His Asp Asn  
 65 70 75 80

Pro Pro Val Pro Lys Val Lys Ala Ala Ala Gln Ser Gly Gly Gln Gln  
 85 90 95

Glu Asp Gln Lys Ala Lys Glu Ser Lys Asp Lys Val Glu Glu Glu Lys  
 100 105 110

Glu Val Val Glu Glu Lys Lys Glu Glu Gln Asp Ser Lys Lys Glu Lys  
 115 120 125

Val Glu Lys Gln Ser Gln Lys Gln Lys Glu Glu Glu Arg Asn Ser Lys  
 130 135 140

Glu Glu Gln Gln Lys Gln Glu Glu Ala Lys Ala Arg Ala Asp Arg Glu  
 145 150 155 160

Arg Glu Glu Arg Leu Lys Gln Gln Glu Gln Lys Arg Gln Gln Glu Glu  
 165 170 175

Ala Arg Val Lys Ala Glu Lys Glu Lys Gln Glu Arg Glu Glu Gln Gln  
 180 185 190

Lys Gln Glu Glu Glu Lys Lys Val Lys Tyr Lys Ile Lys Thr Leu Thr  
 195 200 205

Asp Lys Ile Asp Glu Ile Asn Lys Asp Ile Asp Gly Ile Asn Gly Lys  
 210 215 220

Thr Ile Val Gly Ala Glu Glu Val Ile Asp Lys Ile Thr Gly Pro Val  
 225 230 235 240

Tyr Asp Asp Phe Thr Asp Gly Asn Lys Ala Ile Tyr Lys Thr Trp Gly  
 245 250 255

Asp Leu Glu Asp Glu Glu Gly Glu Glu Leu Gly Lys Leu Leu Lys Glu  
 260 265 270  
 Leu Ser Asp Thr Arg His Asn Leu Arg Thr Lys Leu Asn Glu Gly Asn  
 275 280 285  
 Lys Ala Tyr Ile Val Leu Glu Lys Glu Pro Asn Leu Lys Glu Asn Val  
 290 295 300  
 Asn Val Ser Asp Ile Gln Ser Asp Leu Glu Lys Leu Lys Ser Gly Leu  
 305 310 315 320  
 Glu Glu Val Lys Lys Tyr Phe Glu Asn Glu Asp Asn Phe Glu Glu Ile  
 325 330 335  
 Lys Gly Tyr Ile Glu Asp Ser Asn Ser Tyr  
 340 345

<210> 685  
 <211> 696  
 <212> DNA  
 <213> Homo sapiens

<400> 685  
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 tcttgcaaga attatgcaag tgggtgaaaat ctaaaaaatt cagaacaaaa tctagaaagt 120  
 tcagaacaaa atgtaaaaaa aacagaacaa gagataaaaa aacaagttga aggattttta 180  
 gaaattctag agacaaaaga tttatctaaa ttagatgaaa aagatacaaa agaaattgaa 240  
 aaacaaattc aagaattaaa gaataaaaata gaaaaattag attctaaaaa aacttctatt 300  
 gaaacatatt ctgagtatga agaaaaaata aacaaaataa aagaaaaatt gaaaggaaaa 360  
 ggacttgaag ataaatttaa ggagcttgaa gagagtttag caaagaaaaa gggggagaga 420  
 aaaaaagctt tacaagaggg caaacagaaa tttgaagaat ataaaaaaca agtagatact 480  
 tcaactggga aaactcaagg cgacaggtct aaaaaccgag gtggtgttg agtgcaagct 540  
 tggcagtgtg ccaatgaatt aggtttgggt gtaagttatt ctaatggcgg cagtgacaac 600  
 agcaatactg atgaattagc aaacaaagtt atagatgatt ctcttaaaaa gattgaagaa 660  
 gaacttaagg gaatagaaga agataaaaaa gaataa 696

<210> 686  
 <211> 631  
 <212> DNA  
 <213> Homo sapiens

<400> 686  
 ttgcaagaat tatgcaagt gtgaaaatct aaaaaattca gaacaaaatc tagaaagttc 60  
 agaacaaaat gtaaaaaaaa cagaacaaga gataaaaaaa caagttgaag gattttttaga 120  
 aattctagag acaaaaagatt tatctaaatt agatgaaaaa gatacaaaag aaattgaaaa 180  
 acaaattcaa gaattaaaga ataaaataga aaaattagat tctaaaaaaa cttctattga 240  
 aacatattct gagtatgaag aaaaaataaa caaaataaaa gaaaaattga aaggaaaaagg 300  
 acttgaagat aaatttaagg agcttgaaga gagtttagca aagaaaaagg gggagagaaa 360  
 aaaagcttta caagaggcca aacagaaatt tgaagaatat aaaaaacaag tagatacttc 420  
 aactgggaaa actcaaggcg acaggtctaa aaaccgaggt ggtgttgagg tgcaagcttg 480  
 gcagtgtgcc aatgaattag gtttgggtgt aagttattct aatggcggca gtgacaacag 540  
 caatactgat gaattagcaa acaaagttat agatgattct cttaaaaaa .ttgaagaaga 600  
 acttaaggga atagaagaag ataaaaaaga a 631

<210> 687  
 <211> 230  
 <212> PRT  
 <213> Homo sapiens

<400> 687

Leu Met Asn Lys Lys Met Lys Met Phe Ile Ile Cys Ala Val Phe Ala  
1 5 10 15  
Leu Met Ile Ser Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn  
20 25 30  
Ser Glu Gln Asn Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu  
35 40 45  
Gln Glu Ile Lys Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr  
50 55 60  
Lys Asp Leu Ser Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys  
65 70 75 80  
Gln Ile Gln Glu Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys  
85 90 95  
Thr Ser Ile Glu Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile  
100 105 110  
Lys Glu Lys Leu Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu  
115 120 125  
Glu Glu Ser Leu Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln  
130 135 140  
Glu Ala Lys Gln Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser  
145 150 155 160  
Thr Gly Lys Thr Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly  
165 170 175  
Val Gln Ala Trp Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr  
180 185 190  
Ser Asn Gly Gly Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys  
195 200 205  
Val Ile Asp Asp Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile  
210 215 220  
Glu Glu Asp Lys Lys Glu  
225 230

<210> 688

<211> 210

<212> PRT

<213> Homo sapiens

<400> 688

Cys Lys Asn Tyr Ala Ser Gly Glu Asn Leu Lys Asn Ser Glu Gln Asn  
1 5 10 15  
Leu Glu Ser Ser Glu Gln Asn Val Lys Lys Thr Glu Gln Glu Ile Lys  
20 25 30  
Lys Gln Val Glu Gly Phe Leu Glu Ile Leu Glu Thr Lys Asp Leu Ser  
35 40 45

Lys Leu Asp Glu Lys Asp Thr Lys Glu Ile Glu Lys Gln Ile Gln Glu  
 50 55 60  
 Leu Lys Asn Lys Ile Glu Lys Leu Asp Ser Lys Lys Thr Ser Ile Glu  
 65 70 75 80  
 Thr Tyr Ser Glu Tyr Glu Glu Lys Ile Asn Lys Ile Lys Glu Lys Leu  
 85 90 95  
 Lys Gly Lys Gly Leu Glu Asp Lys Phe Lys Glu Leu Glu Glu Ser Leu  
 100 105 110  
 Ala Lys Lys Lys Gly Glu Arg Lys Lys Ala Leu Gln Glu Ala Lys Gln  
 115 120 125  
 Lys Phe Glu Glu Tyr Lys Lys Gln Val Asp Thr Ser Thr Gly Lys Thr  
 130 135 140  
 Gln Gly Asp Arg Ser Lys Asn Arg Gly Gly Val Gly Val Gln Ala Trp  
 145 150 155 160  
 Gln Cys Ala Asn Glu Leu Gly Leu Gly Val Ser Tyr Ser Asn Gly Gly  
 165 170 175  
 Ser Asp Asn Ser Asn Thr Asp Glu Leu Ala Asn Lys Val Ile Asp Asp  
 180 185 190  
 Ser Leu Lys Lys Ile Glu Glu Glu Leu Lys Gly Ile Glu Glu Asp Lys  
 195 200 205  
 Lys Glu  
 210  
 <210> 689  
 <211> 1083  
 <212> DNA  
 <213> Homo sapiens  
 <400> 689  
 taattgtttg gggttgtggt aaacttaagg cttatggagt ggattatgaa taaaaaatg 60  
 aaaatattta ttatttgtgc tgtatttgtg ctgataagtt cttgcaagat tgatgcaact 120  
 ggtaaagatg caactggtaa agatgcaact ggtaaagatg caactggtaa agatgcaact 180  
 ggtaaaaatg cagaacaaaa tataaaaggg aaagttcaag gattttttaga aaagatttta 240  
 gatccagtaa aggataaaat tgcttcaaat ggtccaatag cagatgaatt ggcaaaaaaa 300  
 ttacaagaag aagaaaagggt aaataacggg gaagaagaaa atgataaagc tgtcttttta 360  
 ggagaagaat caaaagagga tgaagaagaa aatgagcaag ctgttaattt agaagaaaaa 420  
 aatgcggaag aggataagaa agttgttaat ttagaagaga aagaattaga agttaaaaaa 480  
 gagactgaag aagatgaaga taaagaagaa atagagaaac aaaaacaaga agtggaaaaa 540  
 gcacaagaaa gaaaacaacg acaagaagaa aagaaacgaa aaaaacaaga acagcaagaa 600  
 gaaaagaaac gaaaacgaca agaacaaaga aaagaaagga gagctaaaaa caaaatttaa 660  
 aaacttgccg ataaaataga tgagataagt tggaatattg atggatataga aagtcacaaa 720  
 agtgtaaaac cgaaagcagt tatagataaa attacggggc ctgtatatga ttattttacc 780  
 gatgacaaca aaaaagctat atataaaaca tggggagatt tagaagatga agaaggcgaa 840  
 ggattgggaa aattattgaa agaattgagt gatactagag atgagttaag aaccaaatta 900  
 aataaagata ataaaaata ttatgcccat gaaaatgagc ctctctaaa agaaaatgta 960  
 gatgtcagcg aaattaaaga agatttagaa aaagtaaaat caggattaga aaagggttaa 1020  
 gaatatctta aagacaattc taaatttgaa gaaattaaag gatacatcag ttacagtcag 1080  
 taa 1083

<210> 690  
 <211> 979  
 <212> DNA  
 <213> Homo sapiens

<400> 690  
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 aactggtaaa gatgcaactg gtaaaaatgc agaacaaaat ataaaaggga aagttcaagg 120  
 atttttagaa aagatttttag atccagtaaa ggataaaaatt gcttcaaatt gtccaatagc 180  
 agatgaattg gcaaaaaaat tacaagaaga agaaaaggta aataacgggg aagaagaaaa 240  
 tgataaagct gtcttttttag gagaagaatc aaaagaggat gaagaagaaa atgagcaagc 300  
 tgtaatttta gaagaaaaaa atgcggaaga ggataagaaa gttgttaatt tagaagagaa 360  
 agaattagaa gttaaaaaag agactgaaga agatgaagat aaagaagaaa tagagaaaca 420  
 aaaacaagaa gtggaaaaag cacaagaaag aaaacaacga caagaagaaa agaaacgaaa 480  
 aaaacaagaa cagcaagaag aaaagaaacg aaacgcacaa gaacaaagaa aagaaaggag 540  
 agctaaaaac aaaatttaaaa aacttgcgga taaaatagat gagataagtt ggaatattga 600  
 tggtagtagaa agtcaaacaa gtgtaaaacc gaaagcagtt atagataaaa ttacggggcc 660  
 tgtatatgat tattttaccg atgacaacaa aaaagctata tataaaacat ggggagattt 720  
 agaagatgaa gaaggcgaag gattgggaaa attattgaaa gaattgagtg atactagaga 780  
 tgagttaaga accaaattaa ataaagataa taaaaaatat tatgcccatg aaaatgagcc 840  
 tcctctaaaa gaaaatgtag atgtcagcga aattaaagaa gatttagaaa aagtaaaatc 900  
 aggattagaa aagggttaaag aatatcttaa agacaattct aaatttgaag aaattaaagg 960  
 atacatcagt tacagtcag 979

<210> 691  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 691  
 Leu Phe Gly Val Val Asn Leu Arg Leu Met Glu Trp Ile Met Asn  
 1 5 10 15  
 Lys Lys Met Lys Ile Phe Ile Ile Cys Ala Val Phe Val Leu Ile Ser  
 20 25 30  
 Ser Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala  
 35 40 45  
 Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu  
 50 55 60  
 Gln Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp  
 65 70 75 80  
 Pro Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu  
 85 90 95  
 Ala Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu  
 100 105 110  
 Asn Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu  
 115 120 125  
 Glu Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp  
 130 135 140  
 Lys Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu  
 145 150 155 160

Thr Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu  
 165 170 175  
 Val Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg  
 180 185 190  
 Lys Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln  
 195 200 205  
 Arg Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys  
 210 215 220  
 Ile Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser  
 225 230 235 240  
 Val Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp  
 245 250 255  
 Tyr Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp  
 260 265 270  
 Leu Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu  
 275 280 285  
 Ser Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys  
 290 295 300  
 Lys Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp  
 305 310 315 320  
 Val Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu  
 325 330 335  
 Lys Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys  
 340 345 350  
 Gly Tyr Ile Ser Tyr Ser Gln  
 355

<210> 692  
 <211> 326  
 <212> PRT  
 <213> Homo sapiens

<400> 692  
 Cys Lys Ile Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr  
 1 5 10 15  
 Gly Lys Asp Ala Thr Gly Lys Asp Ala Thr Gly Lys Asn Ala Glu Gln  
 20 25 30  
 Asn Ile Lys Gly Lys Val Gln Gly Phe Leu Glu Lys Ile Leu Asp Pro  
 35 40 45  
 Val Lys Asp Lys Ile Ala Ser Asn Gly Pro Ile Ala Asp Glu Leu Ala  
 50 55 60  
 Lys Lys Leu Gln Glu Glu Glu Lys Val Asn Asn Gly Glu Glu Glu Asn  
 65 70 75 80

Asp Lys Ala Val Phe Leu Gly Glu Glu Ser Lys Glu Asp Glu Glu Glu  
 85 90 95  
 Asn Glu Gln Ala Val Asn Leu Glu Glu Lys Asn Ala Glu Glu Asp Lys  
 100 105 110  
 Lys Val Val Asn Leu Glu Glu Lys Glu Leu Glu Val Lys Lys Glu Thr  
 115 120 125  
 Glu Glu Asp Glu Asp Lys Glu Glu Ile Glu Lys Gln Lys Gln Glu Val  
 130 135 140  
 Glu Lys Ala Gln Glu Arg Lys Gln Arg Gln Glu Glu Lys Lys Arg Lys  
 145 150 155 160  
 Lys Gln Glu Gln Gln Glu Glu Lys Lys Arg Lys Arg Gln Glu Gln Arg  
 165 170 175  
 Lys Glu Arg Arg Ala Lys Asn Lys Ile Lys Lys Leu Ala Asp Lys Ile  
 180 185 190  
 Asp Glu Ile Ser Trp Asn Ile Asp Gly Ile Glu Ser Gln Thr Ser Val  
 195 200 205  
 Lys Pro Lys Ala Val Ile Asp Lys Ile Thr Gly Pro Val Tyr Asp Tyr  
 210 215 220  
 Phe Thr Asp Asp Asn Lys Lys Ala Ile Tyr Lys Thr Trp Gly Asp Leu  
 225 230 235 240  
 Glu Asp Glu Glu Gly Glu Gly Leu Gly Lys Leu Leu Lys Glu Leu Ser  
 245 250 255  
 Asp Thr Arg Asp Glu Leu Arg Thr Lys Leu Asn Lys Asp Asn Lys Lys  
 260 265 270  
 Tyr Tyr Ala His Glu Asn Glu Pro Pro Leu Lys Glu Asn Val Asp Val  
 275 280 285  
 Ser Glu Ile Lys Glu Asp Leu Glu Lys Val Lys Ser Gly Leu Glu Lys  
 290 295 300  
 Val Lys Glu Tyr Leu Lys Asp Asn Ser Lys Phe Glu Glu Ile Lys Gly  
 305 310 315 320  
 Tyr Ile Ser Tyr Ser Gln  
 325

<210> 693  
 <211> 381  
 <212> DNA  
 <213> Homo sapiens

<400> 693  
 taggcacaaat ttaaatttat aaaaacttgt aaggatgctt gtatgaaaat attgataaaa 60  
 aagttaaaag ttgtattatt tctcaattta attttactta tttcttgtgt taatgaaagt 120  
 aatagaaaca aattggtttt taagctaaat attggaagtg agcctgctac tttagatgct 180  
 caattaataa acgatacggg tggatcaggg attgtaagcc aaatgtttct tggcatttta 240  
 gatggagatc ccaggactgg aggatacaga ccgggacttg ctaaaagttg ggatatttct 300  
 gatgacggag tagtttatac gtttcattta agagataatc ttgtttggag tgatggagtt 360

tccattactg ccgaagaata a

381

<210> 694

<211> 274

<212> DNA

<213> Homo sapiens

<400> 694

ttgtgttaat gaaagtaata gaaacaaatt ggtttttaag ctaaattattg gaagtgaagcc 60  
tgctacttta gatgctcaat taataaacga tacggttgga tcagggattg taagccaaat 120  
gtttcttggc attttagatg gagatcccag gactggagga tacagaccgg gacttgctaa 180  
aagttgggat atttctgatg acggagtagt ttatacgttt catttaagag ataatcttgt 240  
ttggagtgat ggagtttcca ttactgccga agaa 274

<210> 695

<211> 125

<212> PRT

<213> Homo sapiens

<400> 695

Ala Lys Phe Lys Phe Ile Lys Thr Cys Lys Asp Ala Cys Met Lys Ile  
1 5 10 15

Leu Ile Lys Lys Leu Lys Val Val Leu Phe Leu Asn Leu Ile Leu Leu  
20 25 30

Ile Ser Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu  
35 40 45

Asn Ile Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp  
50 55 60

Thr Val Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp  
65 70 75 80

Gly Asp Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp  
85 90 95

Asp Ile Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn  
100 105 110

Leu Val Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
115 120 125

<210> 696

<211> 91

<212> PRT

<213> Homo sapiens

<400> 696

Cys Val Asn Glu Ser Asn Arg Asn Lys Leu Val Phe Lys Leu Asn Ile  
1 5 10 15

Gly Ser Glu Pro Ala Thr Leu Asp Ala Gln Leu Ile Asn Asp Thr Val  
20 25 30

Gly Ser Gly Ile Val Ser Gln Met Phe Leu Gly Ile Leu Asp Gly Asp  
35 40 45

Pro Arg Thr Gly Gly Tyr Arg Pro Gly Leu Ala Lys Ser Trp Asp Ile



50 55 60

Ser Asp Asp Gly Val Val Tyr Thr Phe His Leu Arg Asp Asn Leu Val  
65 70 75 80

Trp Ser Asp Gly Val Ser Ile Thr Ala Glu Glu  
85 90

<210> 697  
<211> 1158  
<212> DNA  
<213> Homo sapiens

<400> 697

taaagaaaag	cttgcataaa	aagtataaca	aattctttaa	taattaaaat	caaaaagaat	60
ataattattg	cactaaaatt	aaatztatac	agttatatag	aatcacttaa	ggaacaaaaa	120
atgaaatacc	ttaaaaacat	ttccttattt	ttgttaattt	taggttgcaa	atccatccca	180
aatggtaatt	tcaatctaca	cgatacaaac	cataaattag	gaaaactaaa	atttcaagaa	240
gactcgataa	taagcagaaa	ttatgataat	aaaatatcca	ttgtgggagt	atacaaccct	300
ttaacagaaa	aagaaaattt	taaagtcaat	attttcatca	aaaaaaaagg	attacaaata	360
gatcctgaaa	atattttgat	aaatgaagaa	aaaattaatt	attcaaaata	taaagcagaa	420
ctcaaagtaa	aatctagctt	taataaaaagc	attatcagta	tttactaac	taattcaaga	480
gatctattaa	cctacattta	cgataaaaagc	acagggaaat	acattaacat	tgactttaag	540
gacaattgga	acgtatcgca	cagtataaaa	tttaataagg	agtatatatt	agcatatata	600
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agaaaaattg	aaattgaaaa	aacagagctt	aaaacagaat	ataatgaaat	agaggattat	720
tacatctaca	gtatgaaaat	tccaaaatta	tttgaaaaat	cagacgctcc	ctctgaaact	780
tacgaaacat	ttgttatagc	aaattattac	ccctgtgaaa	atttaaatat	actgtttttg	840
aattttaagct	tatactctga	taaattacgc	tttctaaact	ctattttatga	tgagaatgat	900
agaaaattaa	aatggagcc	tctgtgaga	gccttaaaga	attcaaaaac	aataaaagaa	960
acattaaata	tagtattaag	tcttcaaaaa	ataatagagc	tagcaaaaaa	cattgaaaaa	1020
gatattactc	taaaattaaa	atcttacgga	gaaaagggag	aattcacatt	tgaaatatat	1080
aaaccacttc	ttttaaaatt	cttaaaagaa	gtagatcatt	gcataaaaaa	tttgcaatca	1140
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<210> 698  
<211> 991  
<212> DNA  
<213> Homo sapiens

<400> 698

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gggagtatac	aacccttttaa	cagaaaaaga	aaatttttaa	gtcaatattt	tcatcaaaaa	180
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aaaatataaa	gcagaactca	aagtaaaatc	tagctttaat	aaaagcatta	tcagtatttc	300
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taacattgac	tttaaggaca	attggaacgt	atcgcacagt	ataaaattta	ataaggagta	420
tatttttagca	tatataacag	attttgataa	agaaattaaa	atatctaaaa	atattttgca	480
aaaacgtatt	gataatagaa	aaattgaaat	tgaaaaaaca	gagcttaaaa	cagaatataa	540
tgaaatagag	gattattaca	tctacagtat	gaaaattcca	aaattatttg	aaaaatcaga	600
cgctccctct	gaaacttacg	aaacatttgt	tatagcaaat	tattaccctt	gtgaaaattt	660
aaatataactg	tttttgaaat	taagcttata	ctctgataaa	ttacgctttc	taaactctat	720
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aaaaaacatt	gaaaaagata	ttactctaaa	attaaaatct	tacggagaaa	agggagaatt	900
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<210> 699

<211> 384  
 <212> PRT  
 <213> Homo sapiens

<400> 699

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Arg Lys Ala Cys Ile Lys Ser Ile Thr Asn Ser Leu Ile Ile Lys Ile
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Lys Lys Asn Ile Ile Ile Ala Leu Lys Leu Asn Leu Tyr Ser Tyr Ile
      20              25              30

Glu Ser Leu Lys Glu Gln Lys Met Lys Tyr Leu Lys Asn Ile Ser Leu
      35              40              45

Phe Leu Leu Ile Leu Gly Cys Lys Ser Ile Pro Asn Gly Asn Phe Asn
      50              55              60

Leu His Asp Thr Asn His Lys Leu Gly Lys Leu Lys Phe Gln Glu Asp
      65              70              75              80

Ser Ile Ile Ser Arg Asn Tyr Asp Asn Lys Ile Ser Ile Val Gly Val
      85              90              95

Tyr Asn Pro Leu Thr Glu Lys Glu Asn Phe Lys Val Asn Ile Phe Ile
      100             105             110

Lys Lys Lys Gly Leu Gln Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu
      115             120             125

Glu Lys Ile Asn Tyr Ser Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser
      130             135             140

Ser Phe Asn Lys Ser Ile Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp
      145             150             155             160

Leu Leu Thr Tyr Ile Tyr Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile
      165             170             175

Asp Phe Lys Asp Asn Trp Asn Val Ser His Ser Ile Lys Phe Asn Lys
      180             185             190

Glu Tyr Ile Leu Ala Tyr Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile
      195             200             205

Ser Lys Asn Ile Leu Gln Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile
      210             215             220

Glu Lys Thr Glu Leu Lys Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr
      225             230             235             240

Ile Tyr Ser Met Lys Ile Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro
      245             250             255

Ser Glu Thr Tyr Glu Thr Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu
      260             265             270

Asn Leu Asn Ile Leu Phe Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu
      275             280             285

Arg Phe Leu Asn Ser Ile Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met

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290                      295                      300  
 Glu Pro Pro Val Arg Ala Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr  
 305                      310                      315                      320  
 Leu Asn Ile Val Leu Ser Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn  
                     325                      330                      335  
 Ile Glu Lys Asp Ile Thr Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly  
                     340                      345                      350  
 Glu Phe Thr Phe Glu Ile Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys  
                     355                      360                      365  
 Glu Val Asp His Cys Ile Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
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 <213> Homo sapiens  
  
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                     20                      25                      30  
 Tyr Asp Asn Lys Ile Ser Ile Val Gly Val Tyr Asn Pro Leu Thr Glu  
                     35                      40                      45  
 Lys Glu Asn Phe Lys Val Asn Ile Phe Ile Lys Lys Lys Gly Leu Gln  
                     50                      55                      60  
 Ile Asp Pro Glu Asn Ile Leu Ile Asn Glu Glu Lys Ile Asn Tyr Ser  
                     65                      70                      75                      80  
 Lys Tyr Lys Ala Glu Leu Lys Val Lys Ser Ser Phe Asn Lys Ser Ile  
                     85                      90                      95  
 Ile Ser Ile Ser Leu Thr Asn Ser Arg Asp Leu Leu Thr Tyr Ile Tyr  
                     100                      105                      110  
 Asp Lys Ser Thr Gly Lys Tyr Ile Asn Ile Asp Phe Lys Asp Asn Trp  
                     115                      120                      125  
 Asn Val Ser His Ser Ile Lys Phe Asn Lys Glu Tyr Ile Leu Ala Tyr  
                     130                      135                      140  
 Ile Thr Asp Phe Asp Lys Glu Ile Lys Ile Ser Lys Asn Ile Leu Gln  
                     145                      150                      155                      160  
 Lys Arg Ile Asp Asn Arg Lys Ile Glu Ile Glu Lys Thr Glu Leu Lys  
                     165                      170                      175  
 Thr Glu Tyr Asn Glu Ile Glu Asp Tyr Tyr Ile Tyr Ser Met Lys Ile  
                     180                      185                      190  
 Pro Lys Leu Phe Glu Lys Ser Asp Ala Pro Ser Glu Thr Tyr Glu Thr

195 200 205

Phe Val Ile Ala Asn Tyr Tyr Pro Cys Glu Asn Leu Asn Ile Leu Phe  
210 215 220

Leu Asn Leu Ser Leu Tyr Ser Asp Lys Leu Arg Phe Leu Asn Ser Ile  
225 230 235 240

Tyr Asp Glu Asn Asp Arg Lys Leu Lys Met Glu Pro Pro Val Arg Ala  
245 250 255

Leu Lys Asn Ser Lys Thr Ile Lys Glu Thr Leu Asn Ile Val Leu Ser  
260 265 270

Pro Gln Lys Ile Ile Glu Leu Ala Lys Asn Ile Glu Lys Asp Ile Thr  
275 280 285

Leu Lys Leu Lys Ser Tyr Gly Glu Lys Gly Glu Phe Thr Phe Glu Ile  
290 295 300

Tyr Lys Pro Leu Leu Leu Lys Phe Leu Lys Glu Val Asp His Cys Ile  
305 310 315 320

Lys Asn Leu Gln Ser Ser Arg His Lys Phe  
325 330

<210> 701  
<211> 555  
<212> DNA  
<213> Homo sapiens

<400> 701  
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aattatcctg atttgaagat ttcaaatttt aaaataaaaag actacgaaca ttgcattat 180  
tcatctgatt ttgaaagctt gagtgatact aaaaatagtg cttatatatta cgttgatgaa 240  
tctagtttca ataataatat taattttatt aaagatcttt ttatttataa taagaaatta 300  
tatagaatac ttattgctta tagcttgacc caagggtgcat cttttaaggc agaagtttta 360  
tcttatcttg aaaaacaaaa aattatgaaa aatttttcat tgaaaaataa ttttccaact 420  
gctaaaaaat ttatggataa taagtattgg attgtaattg caaaaaacca tttagattct 480  
cttgттаага gtaaaaatta tttagtcttg gcgaatgtaa agatggaata tatactcaa 540  
aagtttttaa cttga 555

<210> 702  
<211> 451  
<212> DNA  
<213> Homo sapiens

<400> 702  
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acatttgc atttcatctg attttgaaag cttgagtgat actaaaaata gtgcttatat 180  
ttacgttgat gaatctagtt tcaataataa tattaatttt attaaagatc tttttattta 240  
taataagaaa ttatatagaa tacttattgc ttatagcttg acccaagggtg catcttttaa 300  
ggcagaagtt ttatcttattc ttgaaaaaca aaaaattatg aaaaattttt cattgaaaaat 360  
aaattttcca actgctaaaa aatttatgga taataagtat tggattgtaa ttgcaaaaaa 420  
ccatttagat tctcttgtaa agagtaaaaa t 451

<210> 703  
<211> 183

<212> PRT

<213> Homo sapiens

<400> 703

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Met Lys Lys Phe Leu Ile Ser Val Tyr Phe Leu Leu Phe Tyr Gly Cys
  1              5              10              15

Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn Leu
      20              25              30

Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser Asn
      35              40              45

Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe Glu
      50              55              60

Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu Ser
      65              70              75              80

Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr Asn
      85              90              95

Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly Ala
      100              105              110

Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile Met
      115              120              125

Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe Met
      130              135              140

Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser Leu
      145              150              155              160

Val Lys Ser Lys Asn Tyr Leu Val Leu Ala Asn Val Lys Met Glu Tyr
      165              170              175

Ile Leu Lys Lys Phe Leu Thr
      180
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<210> 704

<211> 150

<212> PRT

<213> Homo sapiens

<400> 704

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Cys Ser Thr Ile Ser Leu Val Lys Ile Pro Glu Lys Asp Lys Ile Asn
  1              5              10              15

Leu Thr Val Leu Ser Ser Leu Met Asn Tyr Pro Asp Leu Lys Ile Ser
      20              25              30

Asn Phe Lys Ile Lys Asp Tyr Glu His Leu His Tyr Ser Ser Asp Phe
      35              40              45

Glu Ser Leu Ser Asp Thr Lys Asn Ser Ala Tyr Ile Tyr Val Asp Glu
      50              55              60

Ser Ser Phe Asn Asn Asn Ile Asn Phe Ile Lys Asp Leu Phe Ile Tyr
      65              70              75              80
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Asn Lys Lys Leu Tyr Arg Ile Leu Ile Ala Tyr Ser Leu Thr Gln Gly  
85 90 95

Ala Ser Phe Lys Ala Glu Val Leu Ser Tyr Leu Glu Lys Gln Lys Ile  
100 105 110

Met Lys Asn Phe Ser Leu Lys Ile Asn Phe Pro Thr Ala Lys Lys Phe  
115 120 125

Met Asp Asn Lys Tyr Trp Ile Val Ile Ala Lys Asn His Leu Asp Ser  
130 135 140

Leu Val Lys Ser Lys Asn  
145 150

<210> 705  
<211> 450  
<212> DNA  
<213> Homo sapiens

<400> 705  
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ataatgaaaa atttaaagac aaaaattaat ttttttaggga tatttttggt actgttacta 120  
tttcttttctt gcgaatcaat accatcactt ccccaaaaac caaccctaac aaacaaagaa 180  
gatattgaaa atttaatgct cgatgaagca gaacttttta gatactcaac cgcactaaat 240  
gtttggcttt tgactgtaaa atcttatgtg atcaaatact atcctaataa caaatttcct 300  
gtgtttgaaa attttgatcc cgtgtttggc gatgaaaatg gaactaaaga aacaaatata 360  
ctaaaaaatc gaattaccta ctacaatcga tacatagaaa aaaccgaacc gattgtattt 420  
gggtgttaca aaaaatacag cagaagataa 450

<210> 706  
<211> 319  
<212> DNA  
<213> Homo sapiens

<400> 706  
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aaatttaatg ctcgatgaag cagaactttt tagatactca accgcactaa atgtttggct 120  
tttgactgta aaatcttatg tgatcaaata ctatcctaata gacaaatttc ctgtgtttga 180  
aaattttgat cccgtgtttg gcgatgaaaa tggaactaaa gaaacaaata tactaaaaaa 240  
tcgaattacc tactacaatc gatacataga aaaaaccgaa ccgattgtat ttgggtgtta 300  
caaaaaatac agcagaaga 319

<210> 707  
<211> 148  
<212> PRT  
<213> Homo sapiens

<400> 707  
Arg Arg Ser His Lys Gln Asn Val Lys Arg Phe Thr Lys Ser Ser Ser  
1 5 10 15

Arg Gly Gln Ile Met Lys Asn Leu Lys Thr Lys Ile Asn Phe Leu Gly  
20 25 30

Ile Phe Trp Leu Leu Leu Leu Phe Leu Ser Cys Glu Ser Ile Pro Ser  
35 40 45

Leu Pro Gln Lys Pro Thr Leu Thr Asn Lys Glu Asp Ile Glu Asn Leu



tttgcagatc aagcaactgc tacctgcaat taa

453

<210> 710  
<211> 370  
<212> DNA  
<213> Homo sapiens

<400> 710  
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ccaaaaagaa gcaacacaag aaaaacctaa atctaaatct aaagaagacc tgcttagaga 120  
aaagctatct gatgatcaaa aaacacaact tgactgggta aaaaccgctt taactgggtgt 180  
tggaataatt gataaattct tagaaaatga tgaaggcaaa attaaatcag cacttgaaca 240  
tataaagact gaacttgata aatgtaatgg aaatgatgaa ggaaaaaaca ccttcaaaac 300  
taccgttcaa ggggttttta gcggcggcaa tatagataat tttgcagatc aagcaactgc 360  
tacctgcaat 370

<210> 711  
<211> 149  
<212> PRT  
<213> Homo sapiens

<400> 711  
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Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
20 25 30  
Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
35 40 45  
Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Ser Lys Glu Asp Leu Leu  
50 55 60  
Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr Gln Leu Asp Trp Leu Lys  
65 70 75 80  
Thr Ala Leu Thr Gly Val Gly Lys Phe Asp Lys Phe Leu Glu Asn Asp  
85 90 95  
Glu Gly Lys Ile Lys Ser Ala Leu Glu His Ile Lys Thr Glu Leu Asp  
100 105 110  
Lys Cys Asn Gly Asn Asp Glu Gly Lys Asn Thr Phe Lys Thr Thr Val  
115 120 125  
Gln Gly Phe Phe Ser Gly Gly Asn Ile Asp Asn Phe Ala Asp Gln Ala  
130 135 140  
Thr Ala Thr Cys Asn  
145

<210> 712  
<211> 123  
<212> PRT  
<213> Homo sapiens

<400> 712  
Cys Asn Ser Asn Asp Thr Asn Thr Lys Gln Thr Lys Ser Arg Gln Lys  
1 5 10 15



Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
                   20                                  25                                  30  
 Ser Lys Glu Asp Leu Leu Arg Glu Lys Leu Ser Asp Asp Gln Lys Thr  
                   35                                  40                                  45  
 Gln Leu Asp Trp Leu Lys Thr Ala Leu Thr Gly Val Gly Lys Phe Asp  
                   50                                  55                                  60  
 Lys Phe Leu Glu Asn Asp Glu Gly Lys Ile Lys Ser Ala Leu Glu His  
                   65                                  70                                  75                                  80  
 Ile Lys Thr Glu Leu Asp Lys Cys Asn Gly Asn Asp Glu Gly Lys Asn  
                                   85                                  90                                  95  
 Thr Phe Lys Thr Thr Val Gln Gly Phe Phe Ser Gly Gly Asn Ile Asp  
                   100                                  105                                  110  
 Asn Phe Ala Asp Gln Ala Thr Ala Thr Cys Asn  
                   115                                  120

<210> 713  
 <211> 768  
 <212> DNA  
 <213> Homo sapiens

<400> 713  
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 ttaactgctt gcaatccaga ttttaacaca aataagaaaa gaactctaag taaggggata 120  
 atttcaaadc aagatgcaga ttctgataaa ataataaaaa ataaattact tgatgattta 180  
 ataaatttaa tagaaaaagc gaatgcagat agagaaaaat atgtaaaaaa aatggaagaa 240  
 gaaccttcgg atcaatatgg aatgttggct gtttttggag gtatgtattg ggcagaatca 300  
 ccacgggaat taatatctga tacaggtagt gagagatcta ttaggtatag aaggcgtgtt 360  
 tatagtattt tattaaatgc tattgaaact aatgaattaa agaaattttc agaaattaga 420  
 atactgtcaa taaaagtact agaaatattt agcctattta atctatttgg aagtactctt 480  
 gatgatgtgg ttgttcactt atattccaaa aaagatactc taggtaaact agatatttca 540  
 aatttaaaaa gacttaaaaa tttgtttgaa aaattattat ctataaaaaac aatcgtttca 600  
 aagatgtcaa aacgtctttt attggattat caaaataatg aaaattttat aaaaacagat 660  
 aacgccaagc ttggatctta tgtggttgca ctttccaatc aaattcaaga aaaatataat 720  
 gaagcagaaa ggctgaaaag cgagataatt ttaatatata ccctttta 768

<210> 714  
 <211> 670  
 <212> DNA  
 <213> Homo sapiens

<400> 714  
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 tcaagatgca gattctgata aaataataaa aaataaatta cttgatgatt taataaattt 120  
 aatagaaaaa gcgaatgcag atagagaaaa atatgtaaaa aaaatggaag aagaaccttc 180  
 ggatcaatat ggaatgttgg ctgtttttgg aggtatgtat tgggcagaat caccacggga 240  
 attaatatct gatacaggta gtgagagatc tattaggtat agaaggcgtg tttatagtat 300  
 tttattaaat gctattgaaa ctaatgaatt aaagaaattt tcagaaatta gaatactgtc 360  
 aataaaaagta ctagaaatat ttagcctatt taatctattt ggaagtactc ttgatgatgt 420  
 ggttgttcac ttatattcca aaaaagatac tctaggtaaa ctagatattt caaattttaa 480  
 aagacttaaa aatttgtttg aaaaattatt atctataaaa acaatcgttt caaagatgtc 540  
 aaaacgtctt ttattggatt atcaaaaataa tgaaaatttt ataaaaacag ataacgcaa 600  
 gcttggatct tatgtggttg cactttccaa tcaaatccaa gaaaaatata atgaagcaga 660  
 aaggctgaaa

<210> 715  
 <211> 254  
 <212> PRT  
 <213> Homo sapiens

<400> 715  
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 Cys Leu Phe Leu Thr Ala Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys  
                     20                    25                    30  
 Arg Thr Leu Ser Lys Gly Ile Ile Ser Asn Gln Asp Ala Asp Ser Asp  
                     35                    40                    45  
 Lys Ile Ile Lys Asn Lys Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu  
                     50                    55                    60  
 Lys Ala Asn Ala Asp Arg Glu Lys Tyr Val Lys Lys Met Glu Glu Glu  
                     65                    70                    75                    80  
 Pro Ser Asp Gln Tyr Gly Met Leu Ala Val Phe Gly Gly Met Tyr Trp  
                     85                    90                    95  
 Ala Glu Ser Pro Arg Glu Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser  
                     100                    105                    110  
 Ile Arg Tyr Arg Arg Arg Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu  
                     115                    120                    125  
 Thr Asn Glu Leu Lys Lys Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys  
                     130                    135                    140  
 Val Leu Glu Ile Phe Ser Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp  
                     145                    150                    155                    160  
 Asp Val Val Val His Leu Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu  
                     165                    170                    175  
 Asp Ile Ser Asn Leu Lys Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu  
                     180                    185                    190  
 Ser Ile Lys Thr Ile Val Ser Lys Met Ser Lys Arg Leu Leu Leu Asp  
                     195                    200                    205  
 Tyr Gln Asn Asn Glu Asn Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly  
                     210                    215                    220  
 Ser Tyr Val Val Ala Leu Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu  
                     225                    230                    235                    240  
 Ala Glu Arg Leu Lys Ser Glu Ile Ile Leu Ile Tyr Thr Leu  
                     245                    250

<210> 716  
 <211> 223  
 <212> PRT  
 <213> Homo sapiens

<400> 716

Cys Asn Pro Asp Phe Asn Thr Asn Lys Lys Arg Thr Leu Ser Lys Gly  
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Leu Leu Asp Asp Leu Ile Asn Leu Ile Glu Lys Ala Asn Ala Asp Arg  
35 40 45  
Glu Lys Tyr Val Lys Lys Met Glu Glu Glu Pro Ser Asp Gln Tyr Gly  
50 55 60  
Met Leu Ala Val Phe Gly Gly Met Tyr Trp Ala Glu Ser Pro Arg Glu  
65 70 75 80  
Leu Ile Ser Asp Thr Gly Ser Glu Arg Ser Ile Arg Tyr Arg Arg Arg  
85 90 95  
Val Tyr Ser Ile Leu Leu Asn Ala Ile Glu Thr Asn Glu Leu Lys Lys  
100 105 110  
Phe Ser Glu Ile Arg Ile Leu Ser Ile Lys Val Leu Glu Ile Phe Ser  
115 120 125  
Leu Phe Asn Leu Phe Gly Ser Thr Leu Asp Asp Val Val Val His Leu  
130 135 140  
Tyr Ser Lys Lys Asp Thr Leu Gly Lys Leu Asp Ile Ser Asn Leu Lys  
145 150 155 160  
Arg Leu Lys Asn Leu Phe Glu Lys Leu Leu Ser Ile Lys Thr Ile Val  
165 170 175  
Ser Lys Met Ser Lys Arg Leu Leu Leu Asp Tyr Gln Asn Asn Glu Asn  
180 185 190  
Phe Ile Lys Thr Asp Asn Ala Lys Leu Gly Ser Tyr Val Val Ala Leu  
195 200 205  
Ser Asn Gln Ile Gln Glu Lys Tyr Asn Glu Ala Glu Arg Leu Lys  
210 215 220

<210> 717

<211> 951

<212> DNA

<213> Homo sapiens

<400> 717

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aaagaggaac aaaaaataaa caatgatata aaagaagctt taaatggcgt tcaagaaaat 180  
gctattaata atttatatgg aaataaaaaa gaaaaaaaaag attttattaa aaattcggaa 240  
aaattgaaag acaagggttt agacgtgacc accctcccct tagaacctgt agtggcgccc 300  
tccgtagaat ctgcggtgtc tttaggagaa tctaataata ggattgggtat accaaccatt 360  
tcaattgagc ataatcaaaa aaaagagata aaagaagagg attttttccc ttctactgag 420  
gaagaaaagc aagcggataa agcaattaaa gatatagaga atcttattgg agaactctgga 480  
tttcccagat taattgagaa tgtgtgctca cttaaactatg aatatacttt aataagaagt 540  
gatttttatg atgtgataac taagattcag aataaaaaaa taccactaat gaaaaattct 600  
cataataata gaaataaaat aagggaacta gtacaattgc aaaataattt aaagatagga 660

gacgaacttg ataaaaattat gggttgcatt gatactgcag aacaagagat aagatctgcc 720  
gctttctttt ttgatgaagc taaggaaagc ttaaaagaag gtattattaa aagattggaa 780  
aaaagtaaaa atagggcagc atcacaatta tctaaaaagg ctttaaatag agcagaggat 840  
gctttaagggt gcttagaaaa ttattcttct aaaaaagggt aggcaatagg aagaagaagc 900  
tttataaaag aagttgttga acaggcaaaa aatgctttaa gtaagtctta a 951

<210> 718

<211> 859

<212> DNA

<213> Homo sapiens

<400> 718

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aaaagaagct ttaaattggcg ttcaagaaaa tgctattaat aattttatatg gaaataaaaa 120  
agaaaaaaaa gattttatta aaaattcggg aaaattgaaa gacaaggggt tagacgtgac 180  
caccctcccc ttagaacctg tagtggcgcc ctccgtagaa tctgcggtgt ctttaggaga 240  
atctaataat aggattggta taccaacccat ttcaattgag cataatcaaa aaaagagat 300  
aaaagaagag gattttttcc cttctactga ggaagaaaag caagcggata aagcaattaa 360  
agatatagag aatcttattg gagaatctgg atttcccgag ttaattgaga atgtgtgctc 420  
acttaaacat gaatatactt taataagaag tgatttttat gatgtgataa ctaagattca 480  
gaataaaaaa atatcactaa tgaaaaattc tcataataat agaaataaaa taaggggaact 540  
agtacaattg caaaataatt taaagatagg agacgaactt gataaaatta tgggttgcat 600  
tgatactgca gaacaagaga taagatctgc cgctttcttt tttgatgaag ctaaggaaaag 660  
cttaaaagaa ggtattatta aaagattgga aaaaagtaaa aatagggcag catcacaatt 720  
atctaaaaag gctttaaata gagcagagga tgctttaagg tgcttagaaa attattcttc 780  
taaaaaagggt gaggcaatag gaagaagaag ctttataaaa gaagttgttg aacaggcaaa 840  
aatgcttta agtaagtct 859

<210> 719

<211> 315

<212> PRT

<213> Homo sapiens

<400> 719

Tyr Ile Phe Leu Ile Lys Gly Lys Glu Ser Ile Phe Met Lys Lys Lys  
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Met Phe Leu Tyr Thr Leu Leu Thr Ile Gly Leu Met Ser Cys Asn Leu  
20 25 30

Asn Ser Lys Leu Ser Gly Asn Lys Glu Glu Gln Lys Asn Asn Asn Asp  
35 40 45

Ile Lys Glu Ala Leu Asn Gly Val Gln Glu Asn Ala Ile Asn Asn Leu  
50 55 60

Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn Ser Glu Lys  
65 70 75 80

Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu Glu Pro Val  
85 90 95

Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu Ser Asn Asn  
100 105 110

Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln Lys Lys Glu  
115 120 125

Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu Lys Gln Ala  
130 135 140

Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu Ser Gly Phe  
 145 150 155 160  
 Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu Tyr Thr Leu  
 165 170 175  
 Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln Asn Lys Lys  
 180 185 190  
 Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys Ile Arg Glu  
 195 200 205  
 Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu Leu Asp Lys  
 210 215 220  
 Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg Ser Ala Ala  
 225 230 235 240  
 Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly Ile Ile Lys  
 245 250 255  
 Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu Ser Lys Lys  
 260 265 270  
 Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu Asn Tyr Ser  
 275 280 285  
 Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile Lys Glu Val  
 290 295 300  
 Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
 305 310 315  
 <210> 720  
 <211> 286  
 <212> PRT  
 <213> Homo sapiens  
 <400> 720  
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 20 25 30  
 Asn Asn Leu Tyr Gly Asn Lys Lys Glu Lys Lys Asp Phe Ile Lys Asn  
 35 40 45  
 Ser Glu Lys Leu Lys Asp Lys Gly Leu Asp Val Thr Thr Leu Pro Leu  
 50 55 60  
 Glu Pro Val Val Ala Pro Ser Val Glu Ser Ala Val Ser Leu Gly Glu  
 65 70 75 80  
 Ser Asn Asn Arg Ile Gly Ile Pro Thr Ile Ser Ile Glu His Asn Gln  
 85 90 95  
 Lys Lys Glu Ile Lys Glu Glu Asp Phe Phe Pro Ser Thr Glu Glu Glu  
 100 105 110

Lys Gln Ala Asp Lys Ala Ile Lys Asp Ile Glu Asn Leu Ile Gly Glu  
 115 120 125  
 Ser Gly Phe Pro Glu Leu Ile Glu Asn Val Cys Ser Leu Lys His Glu  
 130 135 140  
 Tyr Thr Leu Ile Arg Ser Asp Phe Tyr Asp Val Ile Thr Lys Ile Gln  
 145 150 155 160  
 Asn Lys Lys Ile Ser Leu Met Lys Asn Ser His Asn Asn Arg Asn Lys  
 165 170 175  
 Ile Arg Glu Leu Val Gln Leu Gln Asn Asn Leu Lys Ile Gly Asp Glu  
 180 185 190  
 Leu Asp Lys Ile Met Gly Cys Ile Asp Thr Ala Glu Gln Glu Ile Arg  
 195 200 205  
 Ser Ala Ala Phe Phe Phe Asp Glu Ala Lys Glu Ser Leu Lys Glu Gly  
 210 215 220  
 Ile Ile Lys Arg Leu Glu Lys Ser Lys Asn Arg Ala Ala Ser Gln Leu  
 225 230 235 240  
 Ser Lys Lys Ala Leu Asn Arg Ala Glu Asp Ala Leu Arg Cys Leu Glu  
 245 250 255  
 Asn Tyr Ser Ser Lys Lys Gly Glu Ala Ile Gly Arg Arg Ser Phe Ile  
 260 265 270  
 Lys Glu Val Val Glu Gln Ala Lys Asn Ala Leu Ser Lys Ser  
 275 280 285

<210> 721  
 <211> 918  
 <212> DNA  
 <213> Homo sapiens

<400> 721  
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 gcgataagtg aattacaatc aagccctatt aaacttggaa aaattaaagt tttacaaaaa 180  
 acagaaaaga ttgtaagcac ccaaaatctt caaaacttac aacaaagcca gttcttttaa 240  
 aatgaaaaag aaaaaataat taaaaaaatt gcacaagaat ttgatgagaa tgaaaaattg 300  
 attaataaaa taggtccaaa tatcgaaatg tttgctcaaa caataaacac ggatattcaa 360  
 aaaatcgaac ctaatgatca atttggaata aataaaactt tattcacaga aaaaaagac 420  
 aataatattg actttatggt aaaagacaat cgacttagaa gattatttta ctcatcttta 480  
 aattatgatg aaaataaaat caaaaaatta gccacaatac tcgcgcaaac atcaagctca 540  
 aacgactacc attacacact tattggttta attttttgga caggatttaa aatccaagaa 600  
 gcatttgaaa gcgctgttaa tattttaact aaagacgagc aaaagcgctt aatttttaaa 660  
 tttagaacaa aaacagtaaa agagattcag gaaaattttg aaaaactaat gcaagagaga 720  
 aattcatgga taaaaatcgt cgataacatt attggcgaat atgacaaaaa tacgggagga 780  
 tgcaaagctg atggaaaaat tctcggagaa gtaataaggg ttggatacga gcatgaactc 840  
 gactcaaata aaagtatgca aatttttaac aatattgaaa caccgctaaa aacctgttgt 900  
 gaccacatac actactaa 918

<210> 722  
 <211> 828  
 <212> DNA

<213> Homo sapiens

<400> 722

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tgctctttttt attctaaatc aaacaacaca gaagcgataa gtgaattaca atcaagccct 60
attaaacttg gaaaaattaa agttttacaa aaaacagaaa agattgtaag caccctaaat 120
cttcaaaaact tacaacaaag ccagttcttt aaaaatgaaa aagaaaaaat aattaaaaaa 180
attgcacaag aatttgatga gaatgaaaaa ttgattaata aaatagggtcc aaatatcgaa 240
atgtttgctc aaacaataaa cacggatatt caaaaaatcg aacctaataa ttgactttat gttaaaagac 300
ataaataaaa ctttattcac agaaaaaaaa gacaataata ttgactttat gttaaaagac 360
aatcgactta gaagattatt ttactcatct ttaaattatg atgaaaataa aatcaaaaaa 420
ttagccacaa tactcgcgca aacatcaagc tcaaacgact accattacac acttattggt 480
ttaatttttt ggacaggatt taaaatccaa gaagcatttg aaagcgctgt taatatttta 540
actaaagacg agcaaaaagcg cctaattttt aatttttagaa caaaaacagt aaaagagatt 600
caggaaaatt ttgaaaaact aatgcaagag agaaattcat ggataaaaaa cgtcgataac 660
attattggcg aatatgacaa aaatacggga ggatgcaaaag ctgatggaaa aattctcgga 720
gaagtaataa gggttggata cgagcatgaa ctcgactcaa ataaaagtat gcaaatttta 780
aacaatattg aaacaccgct aaaaacctgt tgtgaccaca tacactac 828
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<210> 723

<211> 304

<212> PRT

<213> Homo sapiens

<400> 723

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Leu Ile Phe Phe Lys Asp Tyr Val Leu Lys Arg Asn Lys Ile Trp Lys
 1                5                10                15

Thr Leu Lys Leu Phe Gln Ile Thr Leu Leu Phe Ser Cys Ser Phe Tyr
      20                25                30

Ser Lys Ser Asn Asn Thr Glu Ala Ile Ser Glu Leu Gln Ser Ser Pro
      35                40                45

Ile Lys Leu Gly Lys Ile Lys Val Leu Gln Lys Thr Glu Lys Ile Val
      50                55                60

Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln Phe Phe Lys Asn
      65                70                75                80

Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu Phe Asp Glu Asn
      85                90                95

Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu Met Phe Ala Gln
      100                105                110

Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn Asp Gln Phe Gly
      115                120                125

Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn Asn Ile Asp Phe
      130                135                140

Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr Ser Ser Leu Asn
      145                150                155                160

Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile Leu Ala Gln Thr
      165                170                175

Ser Ser Ser Asn Asp Tyr His Tyr Thr Leu Ile Gly Leu Ile Phe Trp
      180                185                190
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Thr Gly Phe Lys Ile Gln Glu Ala Phe Glu Ser Ala Val Asn Ile Leu  
 195 200 205  
 Thr Lys Asp Glu Gln Lys Arg Leu Ile Phe Asn Phe Arg Thr Lys Thr  
 210 215 220  
 Val Lys Glu Ile Gln Glu Asn Phe Glu Lys Leu Met Gln Glu Arg Asn  
 225 230 235 240  
 Ser Trp Ile Lys Ile Val Asp Asn Ile Ile Gly Glu Tyr Asp Lys Asn  
 245 250 255  
 Thr Gly Gly Cys Lys Ala Asp Gly Lys Ile Leu Gly Glu Val Ile Arg  
 260 265 270  
 Val Gly Tyr Glu His Glu Leu Asp Ser Asn Lys Ser Met Gln Ile Leu  
 275 280 285  
 Asn Asn Ile Glu Thr Pro Leu Lys Thr Cys Cys Asp His Ile His Tyr  
 290 295 300  
 <210> 724  
 <211> 276  
 <212> PRT  
 <213> Homo sapiens  
 <400> 724  
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 20 25 30  
 Glu Lys Ile Val Ser Thr Gln Asn Leu Gln Asn Leu Gln Gln Ser Gln  
 35 40 45  
 Phe Phe Lys Asn Glu Lys Glu Lys Ile Ile Lys Lys Ile Ala Gln Glu  
 50 55 60  
 Phe Asp Glu Asn Glu Lys Leu Ile Asn Lys Ile Gly Pro Asn Ile Glu  
 65 70 75 80  
 Met Phe Ala Gln Thr Ile Asn Thr Asp Ile Gln Lys Ile Glu Pro Asn  
 85 90 95  
 Asp Gln Phe Gly Ile Asn Lys Thr Leu Phe Thr Glu Lys Lys Asp Asn  
 100 105 110  
 Asn Ile Asp Phe Met Leu Lys Asp Asn Arg Leu Arg Arg Leu Phe Tyr  
 115 120 125  
 Ser Ser Leu Asn Tyr Asp Glu Asn Lys Ile Lys Lys Leu Ala Thr Ile  
 130 135 140  
 Leu Ala Gln Thr Ser Ser Ser Asn Asp Tyr His Tyr Thr Leu Ile Gly  
 145 150 155 160  
 Leu Ile Phe Trp Thr Gly Phe Lys Ile Gln Glu Ala Phe Glu Ser Ala  
 165 170 175



Val Asn Ile Leu Thr Lys Asp Glu Gln Lys Arg Leu Ile Phe Asn Phe  
180 185 190

Arg Thr Lys Thr Val Lys Glu Ile Gln Glu Asn Phe Glu Lys Leu Met  
195 200 205

Gln Glu Arg Asn Ser Trp Ile Lys Ile Val Asp Asn Ile Ile Gly Glu  
210 215 220

Tyr Asp Lys Asn Thr Gly Gly Cys Lys Ala Asp Gly Lys Ile Leu Gly  
225 230 235 240

Glu Val Ile Arg Val Gly Tyr Glu His Glu Leu Asp Ser Asn Lys Ser  
245 250 255

Met Gln Ile Leu Asn Asn Ile Glu Thr Pro Leu Lys Thr Cys Cys Asp  
260 265 270

His Ile His Tyr  
275

<210> 725  
<211> 828  
<212> DNA  
<213> Homo sapiens

<400> 725  
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atcaagatta atattattac aatgatatta actttaattt gcatctcatg tgcacctttt 120  
aacaaaatca atcccaaggc aaatgaaaac accaagctta aaaaaaacac cagactgaaa 180  
aaaccgcgca atccagggga aaacatccaa aatttttaaag ataaatctgg agaccttggc 240  
gcttctgatg aaaaatttat ggggaactacc gcttcagagc taaaagcaat tggtaaggag 300  
ctagaagatc gaaaaaatca atacgatata caaatagcca aaattactaa tgaagaatct 360  
aacctattag atacttatat tcgggcttat gaactagcta acgaaaatga aaaaatgctt 420  
ttaaaaagat ttcttctttc atcttttagat tataaaaaaag aaaacataga gacattaaaa 480  
gaaattcttg aaaaactcat aaataattac gaaaacgacc ccaaaattgc tgcaaatttc 540  
ctttatcgca tagcgctgga tattcaatta aaactggaaa agcacttaaa atcaataaat 600  
gaaaaactgg acactctaag caaagaaaat tcaaaaagaag atttagaggc gttgctagaa 660  
caagtaaaat ctgccttaca gctacaagaa aagtttataaa aaaccctaaa caaaactctt 720  
gaagattacc gtaaaaatac taacaacatt caagaaaata aagtactagc agaacacttt 780  
aataaatatt acaaagactc tgattcttta caatctgcct tttattaa 828

<210> 726  
<211> 717  
<212> DNA  
<213> Homo sapiens

<400> 726  
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accagactga aaaaaccgcg caatccaggg gaaaacatcc aaaattttta agataaatct 120  
ggagaccttg gcgcttctga tgaaaaattt atgggaacta ccgcttcaga gctaaaagca 180  
attggttaagg agctagaaga tcgaaaaaat caatacgata tacaaatagc caaaattact 240  
aatgaagaat ctaacctatt agatacttat attcgggctt atgaactagc taacgaaaat 300  
gaaaaaatgc ttttaaaaag atttcttctt tcatcttttag attataaaaa agaaaacata 360  
gagacattaa aagaaattct tgaaaaactc ataaataatt acgaaaacga ccccaaaatt 420  
gctgcaaatt tcctttatcg catagcgctg gatattcaat taaaactgga aaagcactta 480  
aatcaataaa atgaaaaact ggacactcta agcaaagaaa attcaaaaga agatttagag 540  
gcgttgctag aacaagtaaa atctgcctta cagctacaag aaaagtttaa aaaaacccta 600  
aacaaaactc ttgaagatta ccgtaaaaat actaacaaca ttcaagaaaa taaagtacta 660  
gcagaacact ttaataaata ttacaaagac tctgattctt tacaatctgc cttttat 717

<210> 727  
 <211> 274  
 <212> PRT  
 <213> Homo sapiens

<400> 727

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Leu Ile Leu Val Leu Ile Tyr Lys Glu Ser Ile Leu Lys Lys Ala Lys
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Leu Asn Ile Ile Lys Ile Asn Ile Ile Thr Met Ile Leu Thr Leu Ile
      20             25             30

Cys Ile Ser Cys Ala Pro Phe Asn Lys Ile Asn Pro Lys Ala Asn Glu
      35             40             45

Asn Thr Lys Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro
      50             55             60

Gly Glu Asn Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala
      65             70             75             80

Ser Asp Glu Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile
      85             90             95

Gly Lys Glu Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala
      100            105            110

Lys Ile Thr Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala
      115            120            125

Tyr Glu Leu Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu
      130            135            140

Leu Ser Ser Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu
      145            150            155            160

Ile Leu Glu Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala
      165            170            175

Ala Asn Phe Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu
      180            185            190

Lys His Leu Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu
      195            200            205

Asn Ser Lys Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala
      210            215            220

Leu Gln Leu Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu
      225            230            235            240

Asp Tyr Arg Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala
      245            250            255

Glu His Phe Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala
      260            265            270

Phe Tyr

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<210> 728  
 <211> 239  
 <212> PRT  
 <213> Homo sapiens

<400> 728  
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 Leu Lys Lys Asn Thr Arg Leu Lys Lys Pro Ala Asn Pro Gly Glu Asn  
                   20                  25                  30  
 Ile Gln Asn Phe Lys Asp Lys Ser Gly Asp Leu Gly Ala Ser Asp Glu  
                   35                  40                  45  
 Lys Phe Met Gly Thr Thr Ala Ser Glu Leu Lys Ala Ile Gly Lys Glu  
                   50                  55                  60  
 Leu Glu Asp Arg Lys Asn Gln Tyr Asp Ile Gln Ile Ala Lys Ile Thr  
                   65                  70                  75                  80  
 Asn Glu Glu Ser Asn Leu Leu Asp Thr Tyr Ile Arg Ala Tyr Glu Leu  
                   85                  90                  95  
 Ala Asn Glu Asn Glu Lys Met Leu Leu Lys Arg Phe Leu Leu Ser Ser  
                   100                  105                  110  
 Leu Asp Tyr Lys Lys Glu Asn Ile Glu Thr Leu Lys Glu Ile Leu Glu  
                   115                  120                  125  
 Lys Leu Ile Asn Asn Tyr Glu Asn Asp Pro Lys Ile Ala Ala Asn Phe  
                   130                  135                  140  
 Leu Tyr Arg Ile Ala Leu Asp Ile Gln Leu Lys Leu Glu Lys His Leu  
                   145                  150                  155                  160  
 Lys Ser Ile Asn Glu Lys Leu Asp Thr Leu Ser Lys Glu Asn Ser Lys  
                   165                  170                  175  
 Glu Asp Leu Glu Ala Leu Leu Glu Gln Val Lys Ser Ala Leu Gln Leu  
                   180                  185                  190  
 Gln Glu Lys Phe Lys Lys Thr Leu Asn Lys Thr Leu Glu Asp Tyr Arg  
                   195                  200                  205  
 Lys Asn Thr Asn Asn Ile Gln Glu Asn Lys Val Leu Ala Glu His Phe  
                   210                  215                  220  
 Asn Lys Tyr Tyr Lys Asp Ser Asp Ser Leu Gln Ser Ala Phe Tyr  
                   225                  230                  235

<210> 729  
 <211> 783  
 <212> DNA  
 <213> Homo sapiens

<400> 729  
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 gatctaattg tatttagaac atataaacat ttggaactaa taatgctgcc catgttaatg 120

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ctgagttgcg ctttttttaa gaaaccacaa tctgtacatc aagacagcaa tactggcaaa 180
ccaataagcg atgaaaaatt acatttaata tcaggcaaaa tttcaaataa aaaattgcc 240
atcataaata gtaatcatga cgtaacttgg ataaaaacaa aggcaatgac aatcttaggc 300
gaagatggaa aagaaatacc agaatttaaa aacaaatttg gatattctta tataatatct 360
cctgtaaaaa tggatggaaa atatagttat tacgcgtcat tattaatact ttttgaaaca 420
actaaaaatg gagatgatga atatgaaatt gaagatgtta aatttgtaac agctggttcc 480
accctagaac ttaaaaattc tcttttagct gttgaaaatt cacaagaaga aggatatgtt 540
actgcatacc catttggaat attgatgagt gacgagatta aaaatgcttt taaattaaca 600
tataaaaaatg gtcattggaa ttatatgctt gcagatttaa ctgtcaaaaa taaacttact 660
caagaaacta aaatttataa aatttctctt aattcaaaat taattattga atttttaaaa 720
gaagtgctaa aagaaaattc tatattaaaa gacatagctg gagatttatt tgaagatata 780
taa
783

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<210> 730  
 <211> 654  
 <212> DNA  
 <213> Homo sapiens

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<400> 730
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agcgatgaaa aattacattt aatatcaggg aaaaatttcaa ataaaaaatt gccaatcata 120
aatagtaatc atgacgtaac ttggataaaa acaaaggcaa tgacaatctt aggcgaagat 180
ggaaaaagaaa taccagaatt taaaaacaaa tttggatatt cttatataat atctcctgta 240
aaaatggatg gaaaatatag ttattacgct tcattattaa tactttttga aacaactaaa 300
aatggagatg atgaatatga aattgaagat gttaaatttg taacagctgg ttccacccta 360
gaacttaaaa atttctcttt agctgttgaa aattcacaag aagaaggata tgttactgca 420
taccattttg gaattattgat gagtgcagag attaaaaatg cttttaaatt aacatataaa 480
aatggtcatt ggaattatat gcttgcagat ttaactgtca aaaataaact tactcaagaa 540
actaaaattt ataaaatttc tcttaattca aaattaatta ttgaattttt aaaagaagt 600
ctaaaagaaa attctatatt aaaagacata gctggagatt tatttgaaga tata 654

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<210> 731  
 <211> 259  
 <212> PRT  
 <213> Homo sapiens

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<400> 731
Phe Asn Val Asn Phe Asn Tyr Arg Leu Lys Lys Ala Leu Asn Gly Ile
  1                      5                      10                      15

Lys Glu Glu Asp Leu Met Val Phe Arg Thr Tyr Lys His Leu Glu Leu
                20                      25                      30

Ile Met Leu Pro Met Leu Met Leu Ser Cys Ala Phe Phe Lys Lys Pro
        35                      40                      45

Gln Ser Val His Gln Asp Ser Asn Thr Gly Lys Pro Ile Ser Asp Glu
        50                      55                      60

Lys Leu His Leu Ile Ser Gly Lys Ile Ser Asn Lys Lys Leu Pro Ile
        65                      70                      75

Ile Asn Ser Asn His Asp Val Thr Trp Ile Lys Thr Lys Ala Met Thr
                85                      90                      95

Ile Leu Gly Glu Asp Gly Lys Glu Ile Pro Glu Phe Lys Asn Lys Phe
        100                      105                      110

Gly Tyr Ser Tyr Ile Ile Ser Pro Val Lys Met Asp Gly Lys Tyr Ser
        115                      120                      125

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Tyr Tyr Ala Ser Leu Leu Ile Leu Phe Glu Thr Thr Lys Asn Gly Asp  
 130 135 140

Asp Glu Tyr Glu Ile Glu Asp Val Lys Phe Val Thr Ala Gly Ser Thr  
 145 150 155 160

Leu Glu Leu Lys Asn Ser Leu Leu Ala Val Glu Asn Ser Gln Glu Glu  
 165 170 175

Gly Tyr Val Thr Ala Tyr Pro Phe Gly Ile Leu Met Ser Asp Glu Ile  
 180 185 190

Lys Asn Ala Phe Lys Leu Thr Tyr Lys Asn Gly His Trp Asn Tyr Met  
 195 200 205

Leu Ala Asp Leu Thr Val Lys Asn Lys Leu Thr Gln Glu Thr Lys Ile  
 210 215 220

Tyr Lys Ile Ser Leu Asn Ser Lys Leu Ile Ile Glu Phe Leu Lys Glu  
 225 230 235 240

Val Leu Lys Glu Asn Ser Ile Leu Lys Asp Ile Ala Gly Asp Leu Phe  
 245 250 255

Glu Asp Ile

<210> 732

<211> 218

<212> PRT

<213> Homo sapiens

<400> 732

Cys Ala Phe Phe Lys Lys Pro Gln Ser Val His Gln Asp Ser Asn Thr  
 1 5 10 15

Gly Lys Pro Ile Ser Asp Glu Lys Leu His Leu Ile Ser Gly Lys Ile  
 20 25 30

Ser Asn Lys Lys Leu Pro Ile Ile Asn Ser Asn His Asp Val Thr Trp  
 35 40 45

Ile Lys Thr Lys Ala Met Thr Ile Leu Gly Glu Asp Gly Lys Glu Ile  
 50 55 60

Pro Glu Phe Lys Asn Lys Phe Gly Tyr Ser Tyr Ile Ile Ser Pro Val  
 65 70 75 80

Lys Met Asp Gly Lys Tyr Ser Tyr Tyr Ala Ser Leu Leu Ile Leu Phe  
 85 90 95

Glu Thr Thr Lys Asn Gly Asp Asp Glu Tyr Glu Ile Glu Asp Val Lys  
 100 105 110

Phe Val Thr Ala Gly Ser Thr Leu Glu Leu Lys Asn Ser Leu Leu Ala  
 115 120 125

Val Glu Asn Ser Gln Glu Glu Gly Tyr Val Thr Ala Tyr Pro Phe Gly  
 130 135 140

Ile Leu Met Ser Asp Glu Ile Lys Asn Ala Phe Lys Leu Thr Tyr Lys  
 145 150 155 160

Asn Gly His Trp Asn Tyr Met Leu Ala Asp Leu Thr Val Lys Asn Lys  
 165 170 175

Leu Thr Gln Glu Thr Lys Ile Tyr Lys Ile Ser Leu Asn Ser Lys Leu  
 180 185 190

Ile Ile Glu Phe Leu Lys Glu Val Leu Lys Glu Asn Ser Ile Leu Lys  
 195 200 205

Asp Ile Ala Gly Asp Leu Phe Glu Asp Ile  
 210 215

<210> 733  
 <211> 1212  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (877)  
 <223> n equals a,t,g, or c

<400> 733  
 taattaccaa agataagtaa acttgcaaat aaaactacac gtattgaaag tagatttgaa 60  
 atttccatta tatttatata taatggcact aaatatctga aaatgaagga gaagcgggtg 120  
 ggcaataaaa ttttttatat ttcagtgggt ttaattttta tagttgggtg cgactgggga 180  
 actattaaag ataaaagtac agaaatttcc aagctattaa gaacggacaa agataagact 240  
 aaaaatcaag atagaataga attgggtgaa gataattttg tatctaaaaa taatatgtct 300  
 actactgata cgggcattac tagtttagga agtctaaaca acttggattt aattaatcgt 360  
 tcacagcggg tcagtgaacc acctataatc tcaaatgaga aagccatagc tactcaagca 420  
 aaagtagatt taatgaacaa cattaatggt actataataa acccaaaacc agctcaaaat 480  
 ttgggaaatt ctttaaacaa tactactact gaagatagtg tgaagttttt atcaattgaa 540  
 aaccaagagt ggcttattag taaaaagatt ttgccagta agttggaaaa ttagaaaagc 600  
 tttctaaaaa cacaacacga aaaagaagct ttaagacgg ctaaaactat acaaagtctc 660  
 attagtaatt ccaatatggg taaagaaatt attaagttta aggaagaata ttacaaactt 720  
 tataatttgt ttgaaggcat acaacaaaaa ttccatagtc aaaggaattc atttataaaa 780  
 gatactaaat ttggggaaaa tagacaaaaa aatgcagtta tatttaaata cttttcatct 840  
 atagagaaaag aaattagaga tttgaattat aagttgngtg aaatccaaag taattttcaa 900  
 attgcagatg ttagctggaa taatgcaaac tctcttttaa aagaatctat agaaaaatta 960  
 attcaggcaa ttgaaaaaag gtatgacaat gagagtagaa agcaaggtca aattggtgga 1020  
 cctgctaata gatgggataa aaatcaagct gacaattttg ctaaggatgc aaagtataag 1080  
 gcagaacatt cagcaaatga tttggaaaat gcagccaact attttagata tagttgttca 1140  
 aatgaaaaag aagctaaaaa gctattagaa gaaattaaaa aaagatttgt acgaattggt 1200  
 attagcctat aa 1212

<210> 734  
 <211> 1041  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (709)  
 <223> n equals a,t,g, or c

<400> 734

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tgcgactggg gaactattaa agataaaagt acagaaattt ccaagctatt aagaacggac 60
aaagataaga ctaaaaatca agatagaata gaattgggtg aagataattt tgtatctaaa 120
aataatatgt ctactactga tacgggcatt actagtttag gaagtctaaa caacttggat 180
ttaattaatc gttcacagcg ggtcagtga ccacctataa tctcaaata gaaagccata 240
gctactcaag caaaagtaga tttaatgaac aacattaatg ttactataat aaacccaaaa 300
ccagctcaaa atttgggaaa ttctttaaac aatactacta ctgaagatag tgtgaagttt 360
ttatcaattg aaaaccaaga gtggcttatt agtaaaaaga ttttgcccag taagttggaa 420
aatttagaaa gctttctaaa aacacaacac gaaaaagaag cttttaagac ggctaaaact 480
atacaaagtc tcattagtaa ttccaatatg ggtaaagaaa ttattaagtt taaggaagaa 540
tattacaaac tttataattt gtttgaaggc atacaacaaa aattccatag tcaaaggaat 600
tcatttataa aagatactaa atttggggaa aatagacaaa aaaatgcagt tatattttaaa 660
tccttttcat ctatagagaa agaaattaga gatttgaatt ataagttgng tgaaatccaa 720
agtaattttc aaattgcaga tgtagctgg aataatgcaa actctctttt aaaagaatct 780
atagaaaaat taattcaggc aattgaaaaa aggtatgaca atgagagtag aaagcaaggt 840
caaattgggtg gacctgctaa tagatgggat aaaaatcaag ctgacaattt tgctaaggat 900
gcaaagtata aggcagaaca ttcagcaaat gatttggaaa atgcagccaa ctattttaga 960
tatagttgtt caaatgaaaa agaagctaaa aagctattag aagaaattaa aaaaagattt 1020
gtacgaattg gtattagcct a 1041

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<210> 735

<211> 402

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (292)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 735

Leu Pro Lys Ile Ser Lys Leu Ala Asn Lys Thr Thr Arg Ile Glu Ser  
1 5 10 15

Arg Phe Glu Ile Ser Ile Ile Phe Ile Tyr Asn Gly Thr Lys Tyr Leu  
20 25 30

Lys Met Lys Glu Lys Arg Val Gly Asn Lys Ile Phe Tyr Ile Ser Val  
35 40 45

Val Leu Ile Leu Ile Val Gly Cys Asp Trp Gly Thr Ile Lys Asp Lys  
50 55 60

Ser Thr Glu Ile Ser Lys Leu Leu Arg Thr Asp Lys Asp Lys Thr Lys  
65 70 75 80

Asn Gln Asp Arg Ile Glu Leu Gly Glu Asp Asn Phe Val Ser Lys Asn  
85 90 95

Asn Met Ser Thr Thr Asp Thr Gly Ile Thr Ser Leu Gly Ser Leu Asn  
100 105 110

Asn Leu Asp Leu Ile Asn Arg Ser Gln Arg Val Ser Glu Pro Pro Ile  
115 120 125

Ile Ser Asn Glu Lys Ala Ile Ala Thr Gln Ala Lys Val Asp Leu Met  
130 135 140

Asn Asn Ile Asn Val Thr Ile Ile Asn Pro Lys Pro Ala Gln Asn Leu  
145 150 155 160

Gly Asn Ser Leu Asn Asn Thr Thr Thr Glu Asp Ser Val Lys Phe Leu  
 165 170 175  
 Ser Ile Glu Asn Gln Glu Trp Leu Ile Ser Lys Lys Ile Leu Pro Ser  
 180 185 190  
 Lys Leu Glu Asn Leu Glu Ser Phe Leu Lys Thr Gln His Glu Lys Glu  
 195 200 205  
 Ala Phe Lys Thr Ala Lys Thr Ile Gln Ser Leu Ile Ser Asn Ser Asn  
 210 215 220  
 Met Gly Lys Glu Ile Ile Lys Phe Lys Glu Glu Tyr Tyr Lys Leu Tyr  
 225 230 235 240  
 Asn Leu Phe Glu Gly Ile Gln Gln Lys Phe His Ser Gln Arg Asn Ser  
 245 250 255  
 Phe Ile Lys Asp Thr Lys Phe Gly Glu Asn Arg Gln Lys Asn Ala Val  
 260 265 270  
 Ile Phe Lys Ser Phe Ser Ser Ile Glu Lys Glu Ile Arg Asp Leu Asn  
 275 280 285  
 Tyr Lys Leu Xaa Glu Ile Gln Ser Asn Phe Gln Ile Ala Asp Val Ser  
 290 295 300  
 Trp Asn Asn Ala Asn Ser Leu Leu Lys Glu Ser Ile Glu Lys Leu Ile  
 305 310 315 320  
 Gln Ala Ile Glu Lys Arg Tyr Asp Asn Glu Ser Arg Lys Gln Gly Gln  
 325 330 335  
 Ile Gly Gly Pro Ala Asn Arg Trp Asp Lys Asn Gln Ala Asp Asn Phe  
 340 345 350  
 Ala Lys Asp Ala Lys Tyr Lys Ala Glu His Ser Ala Asn Asp Leu Glu  
 355 360 365  
 Asn Ala Ala Asn Tyr Phe Arg Tyr Ser Cys Ser Asn Glu Lys Glu Ala  
 370 375 380  
 Lys Lys Leu Leu Glu Glu Ile Lys Lys Arg Phe Val Arg Ile Gly Ile  
 385 390 395 400  
 Ser Leu

<210> 736

<211> 347

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (237)

<223> Xaa equals any of the naturally occurring L-amino acids

<400> 736

Cys Asp Trp Gly Thr Ile Lys Asp Lys Ser Thr Glu Ile Ser Lys Leu



1	5	10	15
Leu Arg Thr Asp Lys Asp Lys Thr Lys Asn Gln Asp Arg Ile Glu Leu	20	25	30
Gly Glu Asp Asn Phe Val Ser Lys Asn Asn Met Ser Thr Thr Asp Thr	35	40	45
Gly Ile Thr Ser Leu Gly Ser Leu Asn Asn Leu Asp Leu Ile Asn Arg	50	55	60
Ser Gln Arg Val Ser Glu Pro Pro Ile Ile Ser Asn Glu Lys Ala Ile	65	70	75
Ala Thr Gln Ala Lys Val Asp Leu Met Asn Asn Ile Asn Val Thr Ile	85	90	95
Ile Asn Pro Lys Pro Ala Gln Asn Leu Gly Asn Ser Leu Asn Asn Thr	100	105	110
Thr Thr Glu Asp Ser Val Lys Phe Leu Ser Ile Glu Asn Gln Glu Trp	115	120	125
Leu Ile Ser Lys Lys Ile Leu Pro Ser Lys Leu Glu Asn Leu Glu Ser	130	135	140
Phe Leu Lys Thr Gln His Glu Lys Glu Ala Phe Lys Thr Ala Lys Thr	145	150	155
Ile Gln Ser Leu Ile Ser Asn Ser Asn Met Gly Lys Glu Ile Ile Lys	165	170	175
Phe Lys Glu Glu Tyr Tyr Lys Leu Tyr Asn Leu Phe Glu Gly Ile Gln	180	185	190
Gln Lys Phe His Ser Gln Arg Asn Ser Phe Ile Lys Asp Thr Lys Phe	195	200	205
Gly Glu Asn Arg Gln Lys Asn Ala Val Ile Phe Lys Ser Phe Ser Ser	210	215	220
Ile Glu Lys Glu Ile Arg Asp Leu Asn Tyr Lys Leu Xaa Glu Ile Gln	225	230	235
Ser Asn Phe Gln Ile Ala Asp Val Ser Trp Asn Asn Ala Asn Ser Leu	245	250	255
Leu Lys Glu Ser Ile Glu Lys Leu Ile Gln Ala Ile Glu Lys Arg Tyr	260	265	270
Asp Asn Glu Ser Arg Lys Gln Gly Gln Ile Gly Gly Pro Ala Asn Arg	275	280	285
Trp Asp Lys Asn Gln Ala Asp Asn Phe Ala Lys Asp Ala Lys Tyr Lys	290	295	300
Ala Glu His Ser Ala Asn Asp Leu Glu Asn Ala Ala Asn Tyr Phe Arg	305	310	315
Tyr Ser Cys Ser Asn Glu Lys Glu Ala Lys Lys Leu Leu Glu Glu Ile			

325

330

335

Lys Lys Arg Phe Val Arg Ile Gly Ile Ser Leu  
340 345

&lt;210&gt; 737

&lt;211&gt; 447

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 737

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taaataaatt gtaggataaa aatgaaacaa aaatacgaaa actatttttaa aaaaagatta 60
atatttaaacc tattaatatt ttactacta gcatgctcaa gcgaatccat attttcacaa 120
ttaggaaatc tgcaaaaaat aaaacatgaa tacaatattt tgggcagttc aagtccaaga 180
ggaattttctc tagtaggaga aactctctac attgcagcca tgcattttatt taaaaaagaa 240
aacggcaaga ttgaaaaaat tgatttgagc aattcttatg agtttataaa cgacattgta 300
aatatatctg gaaaaaccta tcttttagcg caaaacaaag aagaagaatt agaagtttgc 360
gagctaaatg gaaaagattg gacattaaaa tttaaaaaac cgctaaaagc atataaattc 420
ttaaatccg tagaagagat ggcgtaa 447

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&lt;210&gt; 738

&lt;211&gt; 351

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 738

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tgctcaagcg aatccatatt ttcacaatta ggaaatctgc aaaaaataaa acatgaatac 60
aatattttgg gcagttcaag tccaagagga atttctctag taggagaaac tctctacatt 120
gcagccatgc atttatttta aaaagaaaac ggcaagattg aaaaaattga tttgagcaat 180
tcttatgagt ttataaacga cattgtaaat atatctggaa aaacctatct tttagcgcaa 240
aacaaagaag aagaattaga agtttgcgag ctaaatggaa aagattggac attaaaattt 300
aaaaaaccgc taaaagcata taaattctta aaatccgtag aagagatggc g 351

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&lt;210&gt; 739

&lt;211&gt; 147

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 739

Ile Asn Cys Arg Ile Lys Met Lys Gln Lys Tyr Glu Asn Tyr Phe Lys  
1 5 10 15

Lys Arg Leu Ile Leu Asn Leu Leu Ile Phe Leu Leu Leu Ala Cys Ser  
20 25 30

Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile Lys His  
35 40 45

Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser Leu Val  
50 55 60

Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys Glu Asn  
65 70 75 80

Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe Ile Asn  
85 90 95

Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln Asn Lys  
100 105 110

Glu Glu Glu Leu Glu Val Cys Glu Leu Asn Gly Lys Asp Trp Thr Leu  
115 120 125

Lys Phe Lys Lys Pro Leu Lys Ala Tyr Lys Phe Leu Lys Ser Val Glu  
130 135 140

Glu Met Ala  
145

<210> 740  
<211> 117  
<212> PRT  
<213> Homo sapiens

<400> 740  
Cys Ser Ser Glu Ser Ile Phe Ser Gln Leu Gly Asn Leu Gln Lys Ile  
1 5 10 15

Lys His Glu Tyr Asn Ile Leu Gly Ser Ser Ser Pro Arg Gly Ile Ser  
20 25 30

Leu Val Gly Glu Thr Leu Tyr Ile Ala Ala Met His Leu Phe Lys Lys  
35 40 45

Glu Asn Gly Lys Ile Glu Lys Ile Asp Leu Ser Asn Ser Tyr Glu Phe  
50 55 60

Ile Asn Asp Ile Val Asn Ile Ser Gly Lys Thr Tyr Leu Leu Ala Gln  
65 70 75 80

Asn Lys Glu Glu Glu Leu Glu Val Cys Glu Leu Asn Gly Lys Asp Trp  
85 90 95

Thr Leu Lys Phe Lys Lys Pro Leu Lys Ala Tyr Lys Phe Leu Lys Ser  
100 105 110

Val Glu Glu Met Ala  
115

<210> 741  
<211> 564  
<212> DNA  
<213> Homo sapiens

<220>  
<221> misc\_feature  
<222> (248)  
<223> n equals a,t,g, or c

<220>  
<221> misc\_feature  
<222> (249)  
<223> n equals a,t,g, or c

<220>  
<221> misc\_feature  
<222> (251)  
<223> n equals a,t,g, or c

<220>

<221> misc\_feature

<222> (260)

<223> n equals a,t,g, or c

<400> 741

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tgttatttgc ctgataatca ggaacaagct gttcaaactt tttttgagaa ttcggaaagt 120
agtgatatgg gttccgatga gattgttact gaaggcatat tttctagttt aaaattatat 180
gcgctctgaac atcgtttatt ggttgagata aaaaagactt taattagttt aaaagatcct 240
aattatcnng ntgtagtacn cccagtgagt gactataatg aggagtattt taataaattc 300
tttctagatt tagggctctga gcaatctaaa gacctgatta agttgtttat tatggtaaaa 360
aatgagcaga acaataataa atttatgcgt atagtctggt ggctgtattc atgtatagag 420
gagttatatt ctctagatat taagtattct ggcgagggga gccatgagta taatcgtaat 480
atgcctagac ccactgctta tgaacaatat ttaaaagtga agaggatga ttataatagc 540
ccagtttcta ttttacctac ataa 564
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<210> 742

<211> 477

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (188)

<223> n equals a,t,g, or c

<220>

<221> misc\_feature

<222> (189)

<223> n equals a,t,g, or c

<220>

<221> misc\_feature

<222> (191)

<223> n equals a,t,g, or c

<220>

<221> misc\_feature

<222> (200)

<223> n equals a,t,g, or c

<400> 742

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tgttatttgc ctgataatca ggaacaagct gttcaaactt tttttgagaa ttcggaaagt 60
agtgatatgg gttccgatga gattgttact gaaggcatat tttctagttt aaaattatat 120
gcgctctgaac atcgtttatt ggttgagata aaaaagactt taattagttt aaaagatcct 180
aattatcnng ntgtagtacn cccagtgagt gactataatg aggagtattt taataaattc 240
tttctagatt tagggctctga gcaatctaaa gacctgatta agttgtttat tatggtaaaa 300
aatgagcaga acaataataa atttatgcgt atagtctggt ggctgtattc atgtatagag 360
gagttatatt ctctagatat taagtattct ggcgagggga gccatgagta taatcgtaat 420
atgcctagac ccactgctta tgaacaatat ttaaaagtga agaggatga ttataat 477
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<210> 743

<211> 186

<212> PRT

<213> Homo sapiens

<220>

<221> SITE

<222> (82)

<223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (83)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (86)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 743  
 Gly Ala Tyr Met Arg Ile Leu Val Gly Val Cys Ile Ile Ala Leu Ala  
           1                          5                          10                          15  
 Leu Leu Gly Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr  
                   20                          25                          30  
 Phe Phe Glu Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val  
                   35                          40                          45  
 Thr Glu Gly Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg  
           50                          55                          60  
 Leu Leu Val Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn  
           65                          70                          75                          80  
 Tyr Xaa Xaa Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe  
                           85                          90                          95  
 Asn Lys Phe Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile  
                   100                          105                          110  
 Lys Leu Phe Ile Met Val Lys Asn Glu Gln Asn Asn Asn Lys Phe Met  
           115                          120                          125  
 Arg Ile Val Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu  
           130                          135                          140  
 Asp Ile Lys Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met  
           145                          150                          155                          160  
 Pro Arg Pro Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp  
                   165                          170                          175  
 Tyr Asn Ser Pro Val Ser Ile Leu Pro Thr  
                   180                          185

<210> 744  
 <211> 159  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (63)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE

<222> (64)  
 <223> Xaa equals any of the naturally occurring L-amino acids  
  
 <220>  
 <221> SITE  
 <222> (67)  
 <223> Xaa equals any of the naturally occurring L-amino acids  
  
 <400> 744  
 Cys Tyr Leu Pro Asp Asn Gln Glu Gln Ala Val Gln Thr Phe Phe Glu  
   1                  5                  10                  15  
 Asn Ser Glu Ser Ser Asp Met Gly Ser Asp Glu Ile Val Thr Glu Gly  
                   20                  25                  30  
 Ile Phe Ser Ser Leu Lys Leu Tyr Ala Ser Glu His Arg Leu Leu Val  
                   35                  40                  45  
 Glu Ile Lys Lys Thr Leu Ile Ser Leu Lys Asp Pro Asn Tyr Xaa Xaa  
                   50                  55                  60  
 Val Val Xaa Pro Val Ser Asp Tyr Asn Glu Glu Tyr Phe Asn Lys Phe  
                   65                  70                  75                  80  
 Phe Leu Asp Leu Gly Ser Glu Gln Ser Lys Asp Leu Ile Lys Leu Phe  
                   85                  90                  95  
 Ile Met Val Lys Asn Glu Gln Asn Asn Asn Lys Phe Met Arg Ile Val  
                   100                  105                  110  
 Arg Trp Leu Tyr Ser Cys Ile Glu Glu Leu Tyr Ser Leu Asp Ile Lys  
                   115                  120                  125  
 Tyr Ser Gly Glu Gly Ser His Glu Tyr Asn Arg Asn Met Pro Arg Pro  
                   130                  135                  140  
 Thr Ala Tyr Glu Gln Tyr Leu Lys Val Lys Arg Tyr Asp Tyr Asn  
                   145                  150                  155  
  
 <210> 745  
 <211> 1011  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
 <221> misc\_feature  
 <222> (557)  
 <223> n equals a,t,g, or c  
  
 <220>  
 <221> misc\_feature  
 <222> (572)  
 <223> n equals a,t,g, or c  
  
 <220>  
 <221> misc\_feature  
 <222> (573)  
 <223> n equals a,t,g, or c  
  
 <220>

<221> misc\_feature  
 <222> (893)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (897)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (906)  
 <223> n equals a,t,g, or c

<400> 745  
 taaagtattt tatttttttt attatccact gttctttttg ctcaagagac tgatggatta 60  
 gcagagggtt ctaaaagggc agagcctgga gaattagttt tagattttgc cgagcttgca 120  
 agagatccaa gttcaactag acttgatctt acaaattatg ttgattatgt atattcgggc 180  
 gcttctggta ttgttaagcc ggaagatatg gttgtagatc ttgggataaa taattggagc 240  
 gttttactta ctctttctgc aaggttgcag gcttacgtta aaaattcagt tgttgcgccc 300  
 gctgttggtta agagtgagtc aaaaagggtac gcagggtgata ctattttagg ggtaagagtt 360  
 ttgtttccaa gctattctca atcatctgct atgattatgc caccatttaa aattcctttt 420  
 tattcagggg aaagtggcaa tcaattttta ggcaaaggct ttattgataa cattaataacc 480  
 atgaaagaaa ttaagggtatc tgtttatagt ttaggggtatg agatagatct tgagggttta 540  
 tttgaagata tgaatgncat ggaatatgct tnncttatgg gtacttttaa gtttaaaggg 600  
 tgggctgatt taatttggtc aaatcctaac tatattccta atatatcatc cagaattatt 660  
 aaagacgatg ttccaaatta tcctcttgct tcaagtaaaa tgagatttaa ggcttttaga 720  
 gtttcaaagt cacacagttc aaaagagcaa aatttcattc tttatgttaa agatttaaga 780  
 gttctttatg ataagttgag tgtttcaata gattctgata ttgacagtga gtctgtattt 840  
 aaagtttatg agactagcgg aactgaatcc cttcgtaa ataaaggcaca cgnaacnttt 900  
 aaaagngttt taaagcttag agaaaaaatt tctatgcctg aaggctcttt ccaaaaacttt 960  
 gtagaaaaga ttgagagtga aaaacctgaa gaatcatctc cgaaaaatta g 1011

<210> 746  
 <211> 945  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> misc\_feature  
 <222> (494)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (509)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (510)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (830)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature

<222> (834)  
 <223> n equals a,t,g, or c

<220>  
 <221> misc\_feature  
 <222> (843)  
 <223> n equals a,t,g, or c

<400> 746  
 gaggggttcta aaagggcaga gcctggagaa ttagttttag attttgccga gcttgcaaga 60  
 gatccaagtt caactagact tgatcttaca aattatgttg attatgtata ttcgggcgct 120  
 tctggatttg ttaagccgga agatatggtt gtagatcttg ggataaataa ttggagcggt 180  
 ttacttactc cttctgcaag gttgcaggct tacgttaaaa attcagttgt tgcgcccgt 240  
 gttgttaaga gtgagtcaaa aaggtacgca ggtgatacta ttttaggggt aagagttttg 300  
 tttccaagct attctcaatc atctgctatg attatgccac catttaaaat tcctttttat 360  
 tcaggggaaa gtggcaatca atttttaggc aaaggtctta ttgataacat taaaaccatg 420  
 aaagaaatta aggtatctgt ttatagttta gggtagtga tagatcttga gggtttat 480  
 gaagatatga atgncatgga atatgcttnn tctatgggta ctttaaagtt taaagggtgg 540  
 gctgatttaa tttgggtcaaa tcctaactat attcctaata tatcatccag aattattaaa 600  
 gacgatgttc caaattatcc tcttgcttca agtaaaatga gatttaaggc ttttagagtt 660  
 tcaaagtcac acagttcaaa agagcaaaat ttcactcttt atgttaaaga ttttaagagtt 720  
 ctttatgata agttgagtgt ttcaatagat tctgatattg acagtgaagtc tgtattttaaa 780  
 gtttatgaga ctacggaac tgaatccctt cgtaaattaa aggcacacgn aacnttttaa 840  
 agngttttta agcttagaga aaaaatttct atgcctgaag gctctttcca aaactttgta 900  
 gaaaagattg agagtgaaaa acctgaagaa tcactctccga aaaat 945

<210> 747  
 <211> 335  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (185)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (190)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (297)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (301)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 747  
 Ser Ile Leu Phe Phe Leu Leu Ser Thr Val Leu Phe Ala Gln Glu Thr  
 1 5 10 15  
 Asp Gly Leu Ala Glu Gly Ser Lys Arg Ala Glu Pro Gly Glu Leu Val  
 20 25 30  
 Leu Asp Phe Ala Glu Leu Ala Arg Asp Pro Ser Ser Thr Arg Leu Asp  
 35 40 45



Leu Thr Asn Tyr Val Asp Tyr Val Tyr Ser Gly Ala Ser Gly Ile Val  
 50 55 60  
 Lys Pro Glu Asp Met Val Val Asp Leu Gly Ile Asn Asn Trp Ser Val  
 65 70 75 80  
 Leu Leu Thr Pro Ser Ala Arg Leu Gln Ala Tyr Val Lys Asn Ser Val  
 85 90 95  
 Val Ala Pro Ala Val Val Lys Ser Glu Ser Lys Arg Tyr Ala Gly Asp  
 100 105 110  
 Thr Ile Leu Gly Val Arg Val Leu Phe Pro Ser Tyr Ser Gln Ser Ser  
 115 120 125  
 Ala Met Ile Met Pro Pro Phe Lys Ile Pro Phe Tyr Ser Gly Glu Ser  
 130 135 140  
 Gly Asn Gln Phe Leu Gly Lys Gly Leu Ile Asp Asn Ile Lys Thr Met  
 145 150 155 160  
 Lys Glu Ile Lys Val Ser Val Tyr Ser Leu Gly Tyr Glu Ile Asp Leu  
 165 170 175  
 Glu Val Leu Phe Glu Asp Met Asn Xaa Met Glu Tyr Ala Xaa Ser Met  
 180 185 190  
 Gly Thr Leu Lys Phe Lys Gly Trp Ala Asp Leu Ile Trp Ser Asn Pro  
 195 200 205  
 Asn Tyr Ile Pro Asn Ile Ser Ser Arg Ile Ile Lys Asp Asp Val Pro  
 210 215 220  
 Asn Tyr Pro Leu Ala Ser Ser Lys Met Arg Phe Lys Ala Phe Arg Val  
 225 230 235 240  
 Ser Lys Ser His Ser Ser Lys Glu Gln Asn Phe Ile Phe Tyr Val Lys  
 245 250 255  
 Asp Leu Arg Val Leu Tyr Asp Lys Leu Ser Val Ser Ile Asp Ser Asp  
 260 265 270  
 Ile Asp Ser Glu Ser Val Phe Lys Val Tyr Glu Thr Ser Gly Thr Glu  
 275 280 285  
 Ser Leu Arg Lys Leu Lys Ala His Xaa Thr Phe Lys Xaa Val Leu Lys  
 290 295 300  
 Leu Arg Glu Lys Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val  
 305 310 315 320  
 Glu Lys Ile Glu Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 325 330 335

<210> 748  
 <211> 315  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> SITE  
 <222> (165)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (170)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (277)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<220>  
 <221> SITE  
 <222> (281)  
 <223> Xaa equals any of the naturally occurring L-amino acids

<400> 748  
 Glu Gly Ser Lys Arg Ala Glu Pro Gly Glu Leu Val Leu Asp Phe Ala  
 1 5 10 15  
 Glu Leu Ala Arg Asp Pro Ser Ser Thr Arg Leu Asp Leu Thr Asn Tyr  
 20 25 30  
 Val Asp Tyr Val Tyr Ser Gly Ala Ser Gly Ile Val Lys Pro Glu Asp  
 35 40 45  
 Met Val Val Asp Leu Gly Ile Asn Asn Trp Ser Val Leu Leu Thr Pro  
 50 55 60  
 Ser Ala Arg Leu Gln Ala Tyr Val Lys Asn Ser Val Val Ala Pro Ala  
 65 70 75 80  
 Val Val Lys Ser Glu Ser Lys Arg Tyr Ala Gly Asp Thr Ile Leu Gly  
 85 90 95  
 Val Arg Val Leu Phe Pro Ser Tyr Ser Gln Ser Ser Ala Met Ile Met  
 100 105 110  
 Pro Pro Phe Lys Ile Pro Phe Tyr Ser Gly Glu Ser Gly Asn Gln Phe  
 115 120 125  
 Leu Gly Lys Gly Leu Ile Asp Asn Ile Lys Thr Met Lys Glu Ile Lys  
 130 135 140  
 Val Ser Val Tyr Ser Leu Gly Tyr Glu Ile Asp Leu Glu Val Leu Phe  
 145 150 155 160  
 Glu Asp Met Asn Xaa Met Glu Tyr Ala Xaa Ser Met Gly Thr Leu Lys  
 165 170 175  
 Phe Lys Gly Trp Ala Asp Leu Ile Trp Ser Asn Pro Asn Tyr Ile Pro  
 180 185 190  
 Asn Ile Ser Ser Arg Ile Ile Lys Asp Asp Val Pro Asn Tyr Pro Leu  
 195 200 205

Ala Ser Ser Lys Met Arg Phe Lys Ala Phe Arg Val Ser Lys Ser His  
 210 215 220

Ser Ser Lys Glu Gln Asn Phe Ile Phe Tyr Val Lys Asp Leu Arg Val  
 225 230 235 240

Leu Tyr Asp Lys Leu Ser Val Ser Ile Asp Ser Asp Ile Asp Ser Glu  
 245 250 255

Ser Val Phe Lys Val Tyr Glu Thr Ser Gly Thr Glu Ser Leu Arg Lys  
 260 265 270

Leu Lys Ala His Xaa Thr Phe Lys Xaa Val Leu Lys Leu Arg Glu Lys  
 275 280 285

Ile Ser Met Pro Glu Gly Ser Phe Gln Asn Phe Val Glu Lys Ile Glu  
 290 295 300

Ser Glu Lys Pro Glu Glu Ser Ser Pro Lys Asn  
 305 310 315

<210> 749  
 <211> 477  
 <212> DNA  
 <213> Homo sapiens

<400> 749  
 tgaatattaa taataaaaaa aggagtaaca atgaaaatca tcaacatatt attttgttta 60  
 tttttactaa tgctaaacgg ctgtaattct aatgataatg acacttttaa aaacaatgcc 120  
 caacaaacaa aaagacgggg aaagcgtgat ttaacccaaa aagaaacaac acaagaaaaa 180  
 ccaaaatcta aagaagaact acttagagaa aagctatctg acgatcaaaa aacacatctt 240  
 gactggttaa aaccgcgttt aactggtgct ggagaatttg acaaattctt agaaaaatgat 300  
 gatgataaaa taaaatcagc acttgatcat ataaaaactc aacttgatag ttgtaatggt 360  
 gatcaagcag aacaacaaaa aaccactttc aaaactgtgg ttacagaatt ctttaaaaaat 420  
 ggtgatatag ataattttgc aactggagcg gtagtaact gcaataatgg tggctaa 477

<210> 750  
 <211> 393  
 <212> DNA  
 <213> Homo sapiens

<400> 750  
 tgtaattcta atgataatga cactttaaaa aacaatgccc aacaaacaaa aagacgggga 60  
 aagcgtgatt taacccaaaa agaaacaaca caagaaaaac caaatctaa agaagaacta 120  
 cttagagaaa agctatctga cgatcaaaaa acacatcttg actggttaaa acccgcttta 180  
 actggtgctg gagaatttga caaattctta gaaaatgatg atgataaaat aaaatcagca 240  
 cttgatcata taaaaactca acttgatagt tgtaatgggt atcaagcaga acaacaaaaa 300  
 accactttca aaactgtggt tacagaattc tttaaaaatg gtgatataga taattttgca 360  
 actggagcgg ttagtaactg caataatggt ggc 393

<210> 751  
 <211> 157  
 <212> PRT  
 <213> Homo sapiens

<400> 751  
 Ile Leu Ile Ile Lys Lys Gly Val Thr Met Lys Ile Ile Asn Ile Leu  
 1 5 10 15

Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Asn



<211> 453  
<212> DNA  
<213> Homo sapiens

<400> 753  
tgaatattaa taataaaaaa aggaataata atgaaaatta tcaacatatt attttgttta 60  
tttttactaa tgctaaacgg ctgtaattct aatgatacta ataatagcca aacaaaaagt 120  
agacaaaaac gtgatttaac ccaaaaaagaa gcaacacaag aaaaaccta atctaaagaa 180  
gaactttcta gagaaaagct aaatgataat caaaaaacac accttgactg gttaaaagaa 240  
gctctgggca atgatggaga atttaataaa tttttaggat atgatgaaag caaaataaaa 300  
tctgcacttg atcatataaa gactgaactt gacagttgta ctggagataa gggtgaaaat 360  
aaaaatacct tcaagcaggt cgttcaggag gcccttaaag ggggcataga cggctttgaa 420  
aatactgcaa gtagtacgtg caaaaattca taa 453

<210> 754  
<211> 369  
<212> DNA  
<213> Homo sapiens

<400> 754  
tgtaattcta atgatactaa taatagccaa acaaaaagta gacaaaaacg tgatttaacc 60  
caaaaagaag caacacaaga aaacctaata tctaaagaag aacttcttag agaaaagcta 120  
aatgataatc aaaaaacaca ccttgactgg ttaaaagaag ctctgggcaa tgatggagaa 180  
tttaataaat ttttaggata tgatgaaagc aaaataaaat ctgcacttga tcatataaag 240  
agtgaacttg acagttgtac tggagataag gttgaaaata aaaatacctt caagcaggtc 300  
gttcaggagg cccttaaagg gggcatagac ggctttgaaa atactgcaag tagtacgtgc 360  
aaaaattca 369

<210> 755  
<211> 149  
<212> PRT  
<213> Homo sapiens

<400> 755  
Ile Leu Ile Ile Lys Lys Gly Ile Ile Met Lys Ile Ile Asn Ile Leu  
1 5 10 15  
Phe Cys Leu Phe Leu Leu Met Leu Asn Gly Cys Asn Ser Asn Asp Thr  
20 25 30  
Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys Arg Asp Leu Thr Gln Lys  
35 40 45  
Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys Glu Glu Leu Leu Arg Glu  
50 55 60  
Lys Leu Asn Asp Asn Gln Lys Thr His Leu Asp Trp Leu Lys Glu Ala  
65 70 75 80  
Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe Leu Gly Tyr Asp Glu Ser  
85 90 95  
Lys Ile Lys Ser Ala Leu Asp His Ile Lys Ser Glu Leu Asp Ser Cys  
100 105 110  
Thr Gly Asp Lys Val Glu Asn Lys Asn Thr Phe Lys Gln Val Val Gln  
115 120 125  
Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe Glu Asn Thr Ala Ser Ser  
130 135 140

Thr Cys Lys Asn Ser  
145

<210> 756

<211> 123

<212> PRT

<213> Homo sapiens

<400> 756

Cys Asn Ser Asn Asp Thr Asn Asn Ser Gln Thr Lys Ser Arg Gln Lys  
1 5 10 15

Arg Asp Leu Thr Gln Lys Glu Ala Thr Gln Glu Lys Pro Lys Ser Lys  
20 25 30

Glu Glu Leu Leu Arg Glu Lys Leu Asn Asp Asn Gln Lys Thr His Leu  
35 40 45

Asp Trp Leu Lys Glu Ala Leu Gly Asn Asp Gly Glu Phe Asn Lys Phe  
50 55 60

Leu Gly Tyr Asp Glu Ser Lys Ile Lys Ser Ala Leu Asp His Ile Lys  
65 70 75 80

Ser Glu Leu Asp Ser Cys Thr Gly Asp Lys Val Glu Asn Lys Asn Thr  
85 90 95

Phe Lys Gln Val Val Gln Glu Ala Leu Lys Gly Gly Ile Asp Gly Phe  
100 105 110

Glu Asn Thr Ala Ser Ser Thr Cys Lys Asn Ser  
115 120